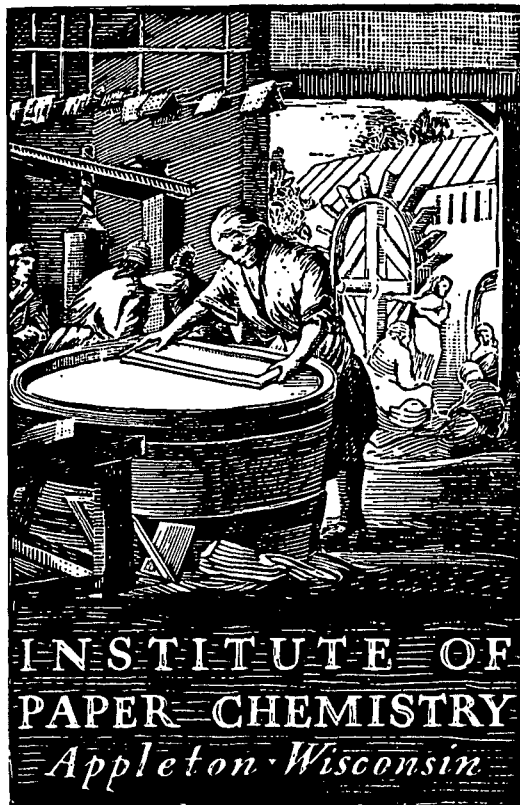




BASE-LINE

MARCH-APRIL, 1972



CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

(Data for March and April, 1972)

Project 2694-2

Report Thirty-One

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

This material is intended only for the internal use of authorized
persons within Fourdrinier Kraft Board Institute member companies

May 24, 1972

BASE-LINE
(MARCH-APRIL, 1972)

THE INSTITUTE OF PAPER CHEMISTRY
Appleton, Wisconsin

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM
(DATA FOR MARCH AND APRIL, 1972)

SUMMARY

PART I. GENERAL

A. Participation Data:

	Previous Period	Current Period
Period	Jan.-Feb., 1972	March-April, 1972
Number of machines	36	31
Number of rolls	124	103

B. Distribution of Mediums by Type:

Semichemical	34	29
Bogus	2	2

C. New Participants:

None

None

D. Nonparticipants:

1. International Paper
(Bastrop No. 1)

1. Continental Can
(Hopewell No. 1)

2. International
(Georgetown No. 1)

3. Mead Corp.
(Lynchburg No. 2)

4. Owens-Ill.
(Big Island Nos. 1 & 3)

5. Westvaco
(Covington No. 7)

PART II. QUALITY DATA

A. Summary of Physical Test Data

Test	Report	Machine Averages		F.K.I. Averages	
		Max.	Min.	Current	Cumulative
Basis weight, lb./1000 ft. ²	Cur.	28.4	24.8	26.4	26.6
	Prev.	28.6	25.2	26.5	26.6
Caliper, pt.	Cur.	10.7	9.0	10.1	10.1
	Prev.	11.4	9.3	10.2	10.1
Concora flat crush, p.s.i.	Cur.	46.7	34.3	40.6	41.7
	Prev.	48.9	34.4	40.8	41.8
Single-face flat crush, p.s.i.	Cur.	33.2	25.9	29.5	31.2
	Prev.	37.1	26.5	29.8	31.3

B. Summary of Runnability Data

Runnability		Previous Period			Current Period		
Speed, f.p.m.	Tension, lb./in.	No. of Rolls	% of Total	Cum., %	No. of Rolls	% of Total	Cum., %
<600	Min.	9	7.3	100.0	6	5.8	100.0
600	Min.	28	22.6	92.7	13	12.6	94.2
600	1/2	25	20.2	70.1	19	18.4	81.6
600	1	19	15.3	49.9	20	19.4	63.2
600	1-1/2	43	34.7	34.7	45	43.7	43.7

C. Trends in Quality Data in Current Report with Reference to Data from Previous Report

Physical Tests:

Basis weight: Decreased from 26.5 to 26.4 lb./M ft.²
 Caliper: Decreased from 10.2 to 10.1 pt.
 Concora flat crush: Decreased from 40.8 to 40.6 p.s.i.
 Single-face flat crush: Decreased from 29.8 to 29.5 p.s.i.

Runnability:

<600 f.p.m. at minimum tension: Decreased from 7.3 to 5.8%
 600 f.p.m. at minimum tension: Decreased from 22.6 to 12.6%
 600 f.p.m. at 1/2 lb./in. tension: Decreased from 20.2 to 18.4%
 600 f.p.m. at 1 lb./in. tension: Increased from 15.3 to 19.4%
 600 f.p.m. at 1-1/2 lb./in. tension: Increased from 34.7 to 43.7%

Comments: The current runnability shows an improvement over that of the previous period.

PART III. CONCORRA CALIBRATION DATA

A. Summary of Data (Number and Percentage of Machines Included Within the Indicated Ranges).

Range, %	Previous Period		Current Period	
	No. of Machines	% of Total	No. of Machines	% of Total
± 1.0	8	22.9	8	30.8
± 2.5	14	40.0	15	57.7
± 5.0	23	65.7	20	76.9
± 10.0	31	88.6	26	100.0 ^b
± 15.0	35	100.0 ^a		

B. Significance of Calibration Data

The current level of agreement between Institute and mill Concorra flat crush data shows an improvement over that of the previous period.

^aMaximum percentage difference was +10.9.

^bMaximum percentage difference was -9.2.

INTRODUCTION

As requested by the Technical Division of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous evaluation of corrugating medium have been prepared by The Institute of Paper Chemistry on a bimonthly instead of monthly basis since August, 1961. The current report summarizes the data obtained during March and April, 1972, on 103 rolls of corrugating medium submitted for evaluation from thirty-one machines.

Each roll was evaluated at the Institute for basis weight, caliper, Concora flat crush (tested immediately after fluting), H. and D. flat crush on single-faced board, and runnability. Runnability was evaluated by corrugating each roll under standardized conditions on the Institute's single-facer into A-flute board at 600 feet per minute with minimum tension and recording the draw factor at this speed and tension if the roll ran satisfactorily. If unsatisfactory runnability occurred at this speed and tension, the single-facer was slowed down in increments of 25 f.p.m. using minimum tension until satisfactory runnability was obtained, i.e., until there was no visual evidence of fractured flutes. In this latter case the draw factor was recorded for the highest speed below 600 f.p.m. (with minimum tension) at which the roll ran satisfactorily. On the other hand, if initial fabrication of the roll was satisfactory at 600 f.p.m. with minimum tension, further runs were made at 600 f.p.m. using higher tension to determine the maximum tension at 600 f.p.m. which the medium could sustain without visual evidence of fracturing. The higher tensions used at 600 f.p.m. were 0.5, 1.0, and 1.5 lb./inch. For each roll, flat crush was determined on the single-faced board obtained at a speed of 600 f.p.m. with minimum tension, or if the roll could not be corrugated satisfactorily at 600 f.p.m. with minimum tension, flat crush was determined on the single-faced board obtained at

the highest speed below 600 f.p.m. at which the medium could be corrugated with minimum tension. The flat crush results on the single-faced board, in addition to supplying information about quality, also provide data which may be useful to each participant as a means of evaluating the nature of the quantitative relationship between Concora flat crush and combined board flat crush for his medium.

For each participating machine, test data for the current period are shown in Table I. A tabulation of the number of rolls and type of medium evaluated is also given in Table I for each machine. The current machine test averages given in Table I are the means for each test property of the averages obtained on all rolls of corrugating medium evaluated from a given machine during the current period. In addition to the current machine test averages, Table I also presents current F.K.I. averages, cumulative F.K.I. averages, and F.K.I. indexes. The current F.K.I. average for each test property is the mean of the current machine averages for the same property for all machines participating in the study during a given period. The cumulative F.K.I. average for a given test property is the mean of the current F.K.I. averages for the same property for the previous twelve-month period excluding the average for the current period. The F.K.I. index for each test property is obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index for each test property provides a convenient means of comparing current average quality with corresponding average quality for the previous six periods. An index greater than 100% indicates, of course, that current average quality is higher than the corresponding average quality for the previous six periods; similarly an index below 100% indicates that current average quality is lower than the corresponding average quality for the previous six periods.

TABLE I
 SUMMARY OF CURRENT MACHINE AVERAGES
 MARCH AND APRIL, 1972

MILL CODE	NO. OF ROLLS	TYPE OF MEDIUM	BASIS WEIGHT, LB.	CALIPER, POINTS	CONCORA FLAT CRUSH, P.S.I.	SINGLE-FACE FLAT CRUSH, P.S.I.
A	4	SEMICHEMICAL	26.6	9.9	40.8	28.8
B	3	SEMICHEMICAL	25.4	10.2	36.9	27.1
C	1	SEMICHEMICAL	26.5	10.3	38.3	27.8
D	2	SEMICHEMICAL	27.0	9.0	45.4	32.5
E	4	SEMICHEMICAL	26.2	10.2	44.6	31.8
F	4	SEMICHEMICAL	26.9	10.0	44.2	30.9
G	4	SEMICHEMICAL	25.7	10.6	43.2	27.8
H	4	SEMICHEMICAL	26.3	10.4	43.3	31.8
I	2	BOGUS	26.7	9.8	38.4	27.9
J	2	SEMICHEMICAL	25.0	10.7	41.2	30.7
K	4	SEMICHEMICAL	26.5	10.7	39.2	27.7
L	4	SEMICHEMICAL	26.4	10.1	39.0	28.3
M	4	SEMICHEMICAL	26.2	10.6	42.7	32.5
N	4	SEMICHEMICAL	25.5	10.2	42.0	30.4
O	4	SEMICHEMICAL	26.5	10.7	39.9	28.9
P	6	SEMICHEMICAL	26.2	10.5	39.7	28.4
Q	3	SEMICHEMICAL	25.6	10.2	34.3	25.9
R	4	SEMICHEMICAL	28.4	10.6	41.2	31.9
S	5	SEMICHEMICAL	26.6	10.3	38.2	27.1
T	4	SEMICHEMICAL	24.8	9.5	40.2	27.4
U	4	SEMICHEMICAL	25.9	10.5	41.3	29.4
V	2	SEMICHEMICAL	28.0	9.2	46.7	33.2
W	4	SEMICHEMICAL	26.0	9.2	41.4	28.8
X	2	BOGUS	27.0	10.4	35.8	26.3
Y	4	SEMICHEMICAL	26.4	10.0	43.1	31.2
Z	4	SEMICHEMICAL	26.2	10.2	38.1	29.0
AA	2	SEMICHEMICAL	25.7	10.3	44.4	32.4
BB	2	SEMICHEMICAL	28.3	9.4	39.0	30.8
CC	5	SEMICHEMICAL	25.6	10.2	43.5	31.8
DD	1	SEMICHEMICAL	27.6	9.4	35.0	27.1
EE	1	SEMICHEMICAL	26.8	10.1	37.4	28.3
TOTAL	103					
CURRENT F.K.I. AVERAGE						
			26.4	10.1	40.6	29.5
CUMULATIVE F.K.I. AVERAGE						
			26.6	10.1	41.7	31.2
F.K.I. INDEX, PERCENT						
			99.2	100.0	97.4	94.6

The test results obtained on the rolls submitted from the production of individual machines during the current period are shown in Tables II through XXXII for Machines A through Z and Machines AA, BB, CC, DD, and EE, respectively. For each machine, the maximum, minimum, and average results obtained on each roll are shown for all test properties except basis weight for which only the average is shown; in addition, the overall average result for all rolls submitted from a given machine is shown for each test property. The latter overall averages are reported as "current machine averages." A cumulative machine average for each test property is also shown and represents the mean of the current machine averages for the same property for the previous six periods (excluding the current period). Also shown for each machine and for each test property in Tables II to XXXII are a machine factor and machine index which are defined as follows:

$$\frac{\text{current machine average}}{\text{cumulative machine average}} \times 100 = \text{machine factor } (\%)$$

$$\frac{\text{current machine average}}{\text{cumulative F.K.I. average}} \times 100 = \text{machine index } (\%)$$

The machine factor and machine index provide a convenient means for comparing the current machine average for each test property with either the previous results obtained on the same machine for the same test property or with the cumulative result for all machines - i.e., the cumulative F.K.I. average for the same test property.

TABLE II
SUMMARY OF TEST RESULTS FOR MACHINE A
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDIA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A FACTOR#B				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		AV.			
A-1	3- 2-72	3562	26.0	10.0	9.2	9.8	41.4	36.0	38.4	29.6	26.6	27.7	1.5	1.576
A-2	3- 2-72	3572	26.5	10.0	9.1	9.7	42.0	37.8	40.2	30.2	27.4	28.6	1.5	1.577
A-3	4- 4-72	4562	27.4	10.3	9.5	10.0	43.2	39.0	41.0	30.0	27.6	28.8	1.5	1.579
A-4	4- 4-72	4632	26.5	10.3	9.4	10.0	47.4	39.0	43.4	30.6	29.0	30.0	1.5	1.578
CURRENT MACHINE AVERAGE			26.6		9.9	9.9	40.8		40.8		28.8			1.578
CUMULATIVE MACHINE AVERAGE			26.7		10.5	10.5	42.6		42.6		29.5			
MACHINE FACTOR, PERCENT			99.6		94.3	94.3	95.8		95.8		97.6			
MACHINE INDEX, PERCENT			100.0		98.0	98.0	97.8		97.8		92.3			

A. Maximum tension at 600 f.p.m.
B. 600 f.p.m. minimum tension.

TABLE III
SUMMARY OF TEST RESULTS FOR MACHINE B
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDIA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A FACTOR#B				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		AV.			
B-1	2- 4-72	4	25.3	11.0	10.5	10.8	43.2	34.2	39.0	28.6	27.2	27.9	MIN.	1.560
B-2	3-29-72	6	26.8	10.0	9.3	9.8	41.4	34.8	37.9	30.0	26.0	28.5	1.5	1.568
B-3	4-12-72	8	24.0	10.1	9.6	9.9	39.6	27.6	33.7	25.6	24.6	25.0	1.0	1.576
CURRENT MACHINE AVERAGE			25.4		10.2	10.2	36.9		36.9		27.1			1.568
CUMULATIVE MACHINE AVERAGE			26.5		10.3	10.3	38.9		38.9		29.2			
MACHINE FACTOR, PERCENT			95.8		99.0	99.0	94.8		94.8		92.8			
MACHINE INDEX, PERCENT			95.5		101.0	101.0	88.5		88.5		86.8			

TABLE IV

SUMMARY OF TEST RESULTS FOR MACHINE C

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M., SQ. FT.		CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW			
			MAX.	AV.	MAX.	AV.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	AV.	LB./IN.*A FACTOR*8
C-1		5015	26.5	10.3	11.0	10.0	39.6	36.0	38.3	28.6	27.0	27.8	1.5	1.570
			27.4	10.4			38.3			27.8				1.570
			96.7	99.0			39.7			30.2				
			99.6	102.0			96.5			92.0				
							91.8			89.1				

CURRENT MACHINE AVERAGE
CUMULATIVE MACHINE AVERAGE
MACHINE FACTOR, PERCENT
MACHINE INDEX, PERCENT

TABLE V

SUMMARY OF TEST RESULTS FOR MACHINE D

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M., SQ. FT.		CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW			
			MAX.	AV.	MAX.	AV.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	AV.	LB./IN.*A FACTOR*8
D-1	2-29-72	376	27.0	9.0	9.2	9.0	48.0	41.4	44.0	33.8	30.4	32.3	1.5	1.570
D-2	3-8-72	377	27.1	9.1	9.2	9.0	49.2	44.4	46.8	33.0	32.4	32.7	1.5	1.579
			27.2	9.1						32.5				1.575
			99.3	98.9			45.4			33.0				
			101.5	89.1			44.2			98.5				
							102.7			104.2				
							108.9							

CURRENT MACHINE AVERAGE
CUMULATIVE MACHINE AVERAGE
MACHINE FACTOR, PERCENT
MACHINE INDEX, PERCENT

See Table II for Footnotes A and B.

TABLE VI
SUMMARY OF TEST RESULTS FOR MACHINE E
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*8	
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			
E-1	1-10-72	7795	26.5	10.1	9.3	49.8	44.4	47.9	35.6	32.8	33.9	0.5
E-2	1-24-72	8187	26.3	10.9	10.0	44.4	42.0	42.8	33.4	31.6	32.4	NOTE C
E-3	2-2-72	8427	26.2	10.2	9.5	46.2	43.8	45.0	32.2	30.0	31.2	1.0
E-4	2-8-72	8619	26.0	10.9	10.0	45.0	39.6	42.5	32.6	28.6	29.9	0.5
CURRENT MACHINE AVERAGE			26.2	10.2	10.2	44.6			31.8			1.567
CUMULATIVE MACHINE AVERAGE			26.2	10.2	10.2	45.1			34.4			
MACHINE FACTOR, PERCENT			100.0	100.0	100.0	98.9			92.4			
MACHINE INDEX, PERCENT			98.5	101.0	101.0	107.0			101.9			

*See Table II for Footnotes A and B.
C. Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE VII
SUMMARY OF TEST RESULTS FOR MACHINE F
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*8	
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			
F-1	3-10-72		27.4	10.0	9.8	47.4	35.4	44.8	33.6	32.2	32.8	1.0
F-2	3-11-72		26.8	10.1	9.0	47.4	38.4	44.0	32.0	30.4	31.2	1.5
F-3	3-17-72		26.8	10.4	10.0	46.8	40.2	44.0	30.0	28.2	29.2	1.5
F-4	3-18-72		26.6	10.3	10.0	45.6	40.8	43.8	31.6	29.8	30.5	1.0
CURRENT MACHINE AVERAGE			26.9	10.0	10.0	44.2			30.9			1.572
CUMULATIVE MACHINE AVERAGE			26.7	10.4	10.4	42.2			31.0			
MACHINE FACTOR, PERCENT			100.7	96.2	96.2	104.7			99.7			
MACHINE INDEX, PERCENT			101.1	106.0	106.0				99.0			

TABLE VIII

SUMMARY OF TEST RESULTS FOR MACHINE G
 MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*8			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.					
G-1	3-1-72	3212	25.7	10.5	10.0	10.2	48.6	42.0	44.4	29.2	27.8	28.5	1.5	1.575
G-2	3-1-72	3222	26.0	11.2	10.1	10.6	46.2	40.2	44.2	28.0	26.2	27.3	1.5	1.570
G-3	4-5-72	1272	25.7	11.3	10.2	10.8	45.0	41.4	42.6	29.0	26.8	28.0	MIN.	1.567
G-4	4-5-72	1282	25.5	11.0	10.1	10.6	47.4	38.4	41.8	28.8	27.0	27.5	1.0	1.567
CURRENT MACHINE AVERAGE			25.7			10.6			43.2			27.8		1.570
CUMULATIVE MACHINE AVERAGE			26.6			10.6			43.6			31.8		
MACHINE FACTOR, PERCENT			96.6			100.0			99.1			87.4		
MACHINE INDEX, PERCENT			96.6			105.0			103.6			89.1		

TABLE IX

SUMMARY OF TEST RESULTS FOR MACHINE H
 MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*8			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.					
H-1	2-5-72	870	26.2	11.2	10.0	10.4	44.4	42.0	42.8	32.6	28.8	30.3	1.5	1.579
H-2	2-17-72	871	27.1	11.8	10.0	10.8	52.8	43.8	46.4	35.2	33.8	34.4	1.5	1.576
H-3	3-3-72	872	26.0	11.0	9.8	10.2	42.6	37.2	38.9	29.2	27.4	28.2	1.5	1.575
H-4	3-31-72	873	26.0	10.9	9.8	10.3	50.4	40.8	45.1	36.2	33.2	34.2	1.5	1.568
CURRENT MACHINE AVERAGE			26.3			10.4			43.3			31.8		1.575
CUMULATIVE MACHINE AVERAGE			26.3			10.2			40.7			31.3		
MACHINE FACTOR, PERCENT			100.0			102.0			106.4			101.6		
MACHINE INDEX, PERCENT			98.9			103.0			103.8			101.9		

*See Table II for Footnotes A and B.

TABLE X

SUMMARY OF TEST RESULTS FOR MACHINE I
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY, LB./IN.*A				
				MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	MIN.	AV.	
I-1	2-7-72	440	27.4	10.2	9.5	10.0	42.0	36.0	38.4	29.0	26.4	27.8	1.5	1.576
I-2	4-4-72	441	26.0	10.0	9.0	9.5	44.4	34.2	38.4	29.0	27.0	28.0	1.5	1.577
CURRENT MACHINE AVERAGE			26.7			9.8			38.4			27.9		1.577
CUMULATIVE MACHINE AVERAGE			27.3			9.9			39.2			28.2		
MACHINE FACTOR, PERCENT			97.8			99.0			98.0			98.9		
MACHINE INDEX, PERCENT			100.4			97.0			92.1			89.4		

TABLE XI

SUMMARY OF TEST RESULTS FOR MACHINE J
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY, LB./IN.*A				
				MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	MIN.	AV.	
J-1		14	24.7	11.0	10.3	10.8	42.0	37.8	40.1	30.0	27.8	28.8	NOTE C	1.563
J-2		15	25.4	11.3	10.0	10.6	45.0	40.8	42.2	33.6	32.0	32.6	MIN.	1.558
CURRENT MACHINE AVERAGE			25.0			10.7			41.2			30.7		1.561
CUMULATIVE MACHINE AVERAGE			26.5			10.7			40.6			30.9		
MACHINE FACTOR, PERCENT			94.3			100.0			101.5			99.4		
MACHINE INDEX, PERCENT			94.0			105.9			98.8			98.4		

*See Table II for Footnotes A and B.
C Maximum speed at which this roll could be corrugated with minimum tension was 475 f.p.m.

TABLE XII

SUMMARY OF TEST RESULTS FOR MACHINE K
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
K-1	2-22-72	2253	25.8	10.9	10.0	10.5	40.8	36.0	39.1	29.6	27.4	28.6	0.5	1.561
K-2	2-23-72	2254	26.3	11.0	10.3	10.7	43.8	30.0	39.1	29.6	27.8	28.6	0.5	1.567
K-3	3-18-72	2261	27.4	11.6	11.0	11.2	41.4	36.0	38.4	27.2	25.6	26.2	MIN.	1.558
K-4	3-27-72	2262	26.6	10.9	10.1	10.5	42.6	39.0	40.4	28.2	27.0	27.5	0.5	1.563
CURRENT MACHINE AVERAGE				10.7	10.7	10.7	39.2	39.2	39.2	27.7	27.7	27.7	1.562	
CUMULATIVE MACHINE AVERAGE				10.6	10.6	10.6	42.0	42.0	42.0	30.7	30.7	30.7		
MACHINE FACTOR, PERCENT				100.9	100.9	100.9	93.3	93.3	93.3	90.2	90.2	90.2		
MACHINE INDEX, PERCENT				105.9	105.9	105.9	94.0	94.0	94.0	88.8	88.8	88.8		

TABLE XIII

SUMMARY OF TEST RESULTS FOR MACHINE L
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
L-1	2-17-72	400	26.3	11.0	9.9	10.3	45.0	39.0	42.1	31.8	30.2	30.7	1.5	1.576
L-2	2-29-72	401	26.5	10.2	9.4	9.9	39.6	34.2	37.2	30.2	27.6	28.8	1.5	1.575
L-3	3-19-72	402	26.6	10.7	9.0	9.8	40.8	36.0	37.7	28.2	26.0	26.8	1.5	1.577
L-4	4-13-72	403	26.0	10.9	10.1	10.4	42.0	34.2	39.0	27.6	26.4	27.0	1.5	1.579
CURRENT MACHINE AVERAGE				10.1	10.1	10.1	39.0	39.0	39.0	28.3	28.3	28.3	1.577	
CUMULATIVE MACHINE AVERAGE				9.9	9.9	9.9	39.5	39.5	39.5	29.5	29.5	29.5		
MACHINE FACTOR, PERCENT				102.0	102.0	102.0	98.7	98.7	98.7	95.9	95.9	95.9		
MACHINE INDEX, PERCENT				100.0	100.0	100.0	93.5	93.5	93.5	90.7	90.7	90.7		

*See Table II for Footnotes A and B.

TABLE XIV

SUMMARY OF TEST RESULTS FOR MACHINE M

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR* ^B			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.					
M-1	2-5-72	633	25.7	11.9	10.0	11.0	42.6	37.8	40.7	32.2	29.6	30.8	1.0	1.568
M-2	2-23-72	634	26.7	12.0	10.8	11.3	45.6	43.2	44.6	36.4	34.2	35.4	1.5	1.566
M-3	3-24-72	635	25.4	10.0	9.0	9.8	45.6	42.6	44.2	33.2	30.8	31.9	1.5	1.571
M-4	4-5-72	636	26.8	11.0	9.9	10.3	44.4	37.8	41.3	32.6	30.6	31.8	1.0	1.566
CURRENT MACHINE AVERAGE			26.2		10.6		42.7		42.7	32.5		32.5		1.568
CUMULATIVE MACHINE AVERAGE			25.6		10.3		43.4		43.4	32.8		32.8		
MACHINE FACTOR, PERCENT			102.3		102.9		98.4		98.4	99.1		99.1		
MACHINE INDEX, PERCENT			98.5		105.0		102.4		102.4	104.2		104.2		

TABLE XV

SUMMARY OF TEST RESULTS FOR MACHINE N

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR* ^B			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.					
N-1		94	25.6	10.1	9.9	10.0	44.4	37.2	40.7	33.0	31.6	32.2	NOTE C	1.563
N-2	2-16-72	95	25.7	10.9	10.2	10.5	46.8	38.4	41.8	30.0	28.4	29.2	NOTE D	1.560
N-3	2-26-72	96	26.2	10.4	9.9	10.1	45.6	36.6	41.8	30.6	28.0	29.8	1.0	1.576
N-4	3-28-72	97	24.6	10.2	10.0	10.1	46.8	40.2	43.6	31.0	29.6	30.2	1.0	1.571
CURRENT MACHINE AVERAGE			25.5		10.2		42.0		42.0	30.4		30.4		1.568
CUMULATIVE MACHINE AVERAGE			25.8		10.0		40.7		40.7	31.5		31.5		
MACHINE FACTOR, PERCENT			98.8		102.0		103.2		103.2	96.5		96.5		
MACHINE INDEX, PERCENT			95.9		101.0		100.7		100.7	97.4		97.4		

*See Table II for Footnotes A and B.

^CMaximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

^DMaximum speed at which this roll could be corrugated with minimum tension was 450 f.p.m.

TABLE XVI

SUMMARY OF TEST RESULTS FOR MACHINE D
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*B		
				MAX.	AV.	MAX.	MIN.	MAX.	MIN.			MAX.	MIN.
0-1	2-23-72	61	26.5	11.0	10.0	10.6	44.4	37.8	40.0	31.0	30.0	30.4	MIN. 1.559
0-2	2-27-72	62	26.2	11.1	10.0	10.7	43.2	39.0	41.5	30.8	26.4	29.0	MIN. 1.556
0-3	2-28-72	63	26.3	11.3	10.0	10.8	39.0	35.4	37.4	28.8	26.6	26.9	MIN. 1.566
0-4	3-11-72	64	27.1	11.0	10.0	10.6	43.8	38.4	40.6	30.6	28.0	29.3	0.5 1.571
CURRENT MACHINE AVERAGE													
			26.5		10.7	10.7	39.9					28.9	1.563
CUMULATIVE MACHINE AVERAGE													
			26.3		10.6	10.6	38.6					29.8	
MACHINE FACTOR, PERCENT													
			100.8		100.9	100.9	100.8					97.0	
MACHINE INDEX, PERCENT													
			99.6		105.9	105.9	95.7					92.6	

TABLE XVII

SUMMARY OF TEST RESULTS FOR MACHINE P
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*B		
				MAX.	AV.	MAX.	MIN.	MAX.	MIN.			MAX.	MIN.
P-1	12-22-71	656	26.4	11.0	10.0	10.7	42.6	39.0	41.2	28.8	26.8	28.1	NOTE C 1.546
P-2	1-6-72	757	26.7	11.0	10.1	10.6	45.0	39.0	42.1	33.0	30.8	32.1	MIN. 1.542
P-3	2-17-72	7756	25.4	10.9	10.0	10.3	38.4	31.2	34.6	28.0	26.0	27.1	0.5 1.561
P-4	2-23-72	7759	26.0	11.5	10.8	11.0	42.0	36.6	38.4	28.6	26.0	27.4	0.5 1.567
P-5	3-1-72	7765	26.3	10.2	9.6	9.9	44.4	37.8	39.7	29.2	26.8	27.5	1.0 1.563
P-6	4-3-72	7768	26.5	11.0	10.2	10.4	45.0	38.4	42.4	28.8	27.8	28.3	1.0 1.566
CURRENT MACHINE AVERAGE													
			26.2		10.5	10.5	39.7					28.4	1.558
CUMULATIVE MACHINE AVERAGE													
			26.2		10.6	10.6	36.9					27.3	
MACHINE FACTOR, PERCENT													
			100.0		99.0	99.0	107.6					104.0	
MACHINE INDEX, PERCENT													
			98.5		104.0	104.0	95.2					91.0	

*See Table II for Footnotes A and B.

C. Maximum speed at which this roll could be corrugated with minimum tension was 575 f.p.m.

TABLE XVIII

SUMMARY OF TEST RESULTS FOR MACHINE Q

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A FACTOR*8
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	
Q-1	3-17-72	3	26.0	11.5	11.0	33.6	30.6	26.2	24.6	0.5
Q-2	4-5-72	5	25.4	10.7	10.0	43.2	30.6	27.2	24.0	0.5
Q-3	4-12-72	7	25.4	9.3	8.4	37.8	33.6	27.4	24.8	1.5
CURRENT MACHINE AVERAGE			25.6	10.2		34.3		25.9		1.568
CUMULATIVE MACHINE AVERAGE			26.2	9.8		39.9		30.0		
MACHINE FACTOR, PERCENT			97.7	104.1		86.0		86.3		
MACHINE INDEX, PERCENT			96.2	101.0		82.2		83.0		

TABLE XIX

SUMMARY OF TEST RESULTS FOR MACHINE R

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A FACTOR*8
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	
R-1	2-7-72	248	27.9	11.5	10.0	48.0	43.2	33.8	32.0	1.5
R-2	2-7-72	249	28.0	11.1	9.0	47.4	39.6	32.4	29.8	1.5
R-3	3-18-72	250	28.3	11.3	10.0	43.2	36.0	33.2	30.8	1.0
R-4	3-18-72	251	29.5	11.5	10.3	39.6	36.0	33.2	29.8	1.5
CURRENT MACHINE AVERAGE			28.4	10.6		41.2		31.9		1.567
CUMULATIVE MACHINE AVERAGE			26.6	10.2		40.2		30.9		
MACHINE FACTOR, PERCENT			106.8	103.9		102.5		103.2		
MACHINE INDEX, PERCENT			106.8	105.0		98.8		102.2		

*See Table II for Footnotes A and B.

TABLE XX

SUMMARY OF TEST RESULTS FOR MACHINE S

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	LB./IN.*A	DRAW FACTOR*#			
S-1	2-27-72	4	26.0	10.5	10.0	10.1	37.8	34.8	36.5	26.4	24.6	25.3	0.5	1.570
S-2	3-3-72	5	25.6	10.1	9.5	9.9	40.2	32.4	36.1	29.0	27.0	27.8	0.5	1.571
S-3	3-17-72	6	28.1	11.1	10.9	11.0	42.0	38.4	39.8	29.2	27.8	28.5	1.0	1.567
S-4	3-24-72	7	26.2	10.7	10.0	10.4	40.8	34.8	37.8	27.0	25.0	26.3	1.0	1.570
S-5	4-4-72	8	26.9	10.0	9.9	10.0	43.8	39.6	40.7	28.2	27.4	27.8	1.0	1.569
CURRENT MACHINE AVERAGE			26.6	10.3		38.2		27.1		28.8		1.570		
CUMULATIVE MACHINE AVERAGE			25.8	10.4		37.6		28.8		28.8		1.570		
MACHINE FACTOR, PERCENT			103.1	99.0		101.6		94.1		86.8				
MACHINE INDEX, PERCENT			100.0	102.0		91.6		86.8						

TABLE XXI

SUMMARY OF TEST RESULTS FOR MACHINE T

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	LB./IN.*A	DRAW FACTOR*#			
T-1	1-27-72	2988-2	24.6	9.9	7.8	9.0	41.4	37.8	39.8	28.6	27.6	28.1	MIN.	1.569
T-2	1-29-72	3058-2	25.4	10.8	8.0	9.5	45.0	39.0	41.6	29.4	27.4	28.4	MIN.	1.569
T-3	2-29-72	4005-1	24.6	11.0	9.3	10.1	43.8	37.8	40.2	26.6	25.8	26.2	0.5	1.565
T-4	2-29-72	4005-2	24.6	10.2	8.0	9.4	40.8	37.2	39.0	27.4	26.0	26.9	MIN.	1.566
CURRENT MACHINE AVERAGE			24.8	9.5		40.2		27.4		27.4		1.567		
CUMULATIVE MACHINE AVERAGE			25.9	9.6		43.1		29.9		91.6				
MACHINE FACTOR, PERCENT			95.8	99.0		93.3		87.8						
MACHINE INDEX, PERCENT			93.2	94.0		96.4								

*See Table II for Footnotes A and B.

TABLE XXII
SUMMARY OF TEST RESULTS FOR MACHINE U
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*B				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
U-1	2-23-72	295	26.2	10.9	9.9	10.2	46.2	40.2	42.8	32.8	30.4	31.4	0.5	1.570
U-2	3-22-72	296	25.7	10.9	10.0	10.3	42.0	37.2	39.7	28.8	27.8	28.5	0.5	1.567
U-3	3-28-72	297	26.0	11.0	10.1	10.6	46.8	38.4	43.4	32.0	29.6	30.7	0.5	1.566
U-4	4-12-72	298	25.7	11.2	10.4	10.9	42.6	36.0	39.4	27.8	26.6	27.2	1.0	1.567
CURRENT MACHINE AVERAGE			25.9			10.5		41.3				29.4		1.568
CUMULATIVE MACHINE AVERAGE			26.9			10.0		43.9				32.1		
MACHINE FACTOR, PERCENT			96.3			105.0		94.1				91.6		
MACHINE INDEX, PERCENT			97.4			104.0		99.0				94.2		

TABLE XXIII
SUMMARY OF TEST RESULTS FOR MACHINE V
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*B				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
V-1	3-17-72	378	28.0	9.6	9.0	9.2	48.6	43.8	46.7	34.0	33.0	33.5	1.5	1.569
V-2	3-23-72	379	28.0	9.7	9.0	9.3	50.4	43.8	46.7	33.4	32.4	32.8	1.5	1.574
CURRENT MACHINE AVERAGE			28.0			9.2		46.7				33.2		1.572
CUMULATIVE MACHINE AVERAGE			27.1			9.1		43.8				33.0		
MACHINE FACTOR, PERCENT			103.3			101.1		106.6				100.6		
MACHINE INDEX, PERCENT			105.3			91.1		112.0				106.4		

*See Table II for Footnotes A and B.

TABLE XXIV

SUMMARY OF TEST RESULTS FOR MACHINE W
MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
W-1	3-12-72		26.0	9.2	9.0	9.1	44.4	39.6	41.5	26.2	26.6	27.4	1.5	1.572
W-2	3-13-72		25.7	9.1	8.8	9.0	42.6	37.2	39.6	27.2	25.2	26.2	1.5	1.575
W-3	3-15-72		25.7	9.1	8.8	9.0	44.4	39.0	41.9	30.2	29.0	29.6	1.5	1.574
W-4	4-11-72		26.5	10.0	9.5	9.8	46.2	39.6	42.6	33.0	30.8	31.8	1.5	1.578
CURRENT MACHINE AVERAGE														
CUMULATIVE MACHINE AVERAGE														
MACHINE FACTOR, PERCENT														
MACHINE INDEX, PERCENT														
			26.0	9.2	9.2	9.1	41.4							1.575
			26.2	9.5	9.5	43.9								32.6
			99.2	96.8	96.8	94.3								88.3
			97.7	91.1	91.1	99.3								92.3

TABLE XXV

SUMMARY OF TEST RESULTS FOR MACHINE X
MARCH AND APRIL, 1972

TYPE OF MEDIUM- BOGUS

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8				
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.		
X-1	2- 9-72	540	27.6	11.3	10.0	10.5	37.8	31.2	35.5	27.6	25.6	26.5	1.5	1.579
X-2	4- 4-72	541	26.3	10.8	9.4	10.2	38.4	34.2	36.0	27.4	24.8	26.1	1.5	1.580
CURRENT MACHINE AVERAGE														
CUMULATIVE MACHINE AVERAGE														
MACHINE FACTOR, PERCENT														
MACHINE INDEX, PERCENT														
			27.0	10.4	10.4	10.4	35.8							1.580
			27.4	10.0	10.0	41.5								30.5
			98.5	104.0	104.0	86.3								86.2
			101.5	103.0	103.0	85.8								84.3

*See Table II for Footnotes A and B.

TABLE XXVI

SUMMARY OF TEST RESULTS FOR MACHINE Y

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*#B			
				MAX.	AV.	MAX.	MIN.	MAX.	MIN.			MAX.	MIN.	
Y-1	3-11-72		26.3	10.8	10.0	10.2	42.0	36.0	38.9	28.6	27.8	28.2	1.0	1.572
Y-2	3-12-72		26.2	10.1	9.9	10.0	44.4	37.2	41.2	29.4	27.0	28.0	1.5	1.571
Y-3	4-11-72		26.4	10.1	9.8	10.0	43.2	42.6	45.4	34.4	32.8	33.6	1.0	1.567
Y-4	4-12-72		26.6	10.0	9.5	9.9	43.2	45.0	47.0	36.4	34.0	35.0	1.0	1.567
CURRENT MACHINE AVERAGE			26.4		10.0		43.1		43.1	31.2		31.2		1.569
CUMULATIVE MACHINE AVERAGE			26.2		10.2		44.8		44.8	33.5		33.5		
MACHINE FACTOR, PERCENT			100.8		98.0		96.2		93.1	93.1		100.0		
MACHINE INDEX, PERCENT			99.2		99.0		103.4		103.4					

TABLE XXVII

SUMMARY OF TEST RESULTS FOR MACHINE Z

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*#B			
				MAX.	AV.	MAX.	MIN.	MAX.	MIN.			MAX.	MIN.	
Z-1	2-16-72	400	25.3	10.0	9.8	9.9	43.2	31.8	38.3	30.4	28.6	29.7	1.5	1.580
Z-2	2-29-72	401	26.2	10.2	9.8	10.0	40.2	36.6	38.2	30.6	28.6	29.6	1.5	1.577
Z-3	3-19-72	402	26.0	10.1	9.9	10.0	40.8	35.4	37.8	29.6	28.0	29.0	1.5	1.577
Z-4	4-12-72	403	27.3	11.2	10.7	11.0	41.4	35.4	38.2	28.6	27.0	27.7	1.5	1.579
CURRENT MACHINE AVERAGE			26.2		10.2		38.1		38.1	29.0		29.0		1.578
CUMULATIVE MACHINE AVERAGE			26.2		9.9		38.3		38.3	29.2		29.2		
MACHINE FACTOR, PERCENT			100.0		103.0		99.5		99.5	99.3		99.3		
MACHINE INDEX, PERCENT			98.5		101.0		91.4		91.4	92.9		92.9		

*See Table II for Footnotes A and B.

TABLE XXVIII

SUMMARY OF TEST RESULTS FOR MACHINE AA

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.	
AA-1	3-25-72	858	25.4	10.1	9.3	48.6	41.4	44.6	33.0	30.6	32.0	1.5	1.570
AA-2	3-29-72	859	26.0	11.2	10.0	48.0	42.0	44.2	33.6	31.8	32.7	1.5	1.572
CURRENT MACHINE AVERAGE				25.7		10.3		44.4		32.4			1.571
CUMULATIVE MACHINE AVERAGE				26.1		10.3		50.4		36.5			
MACHINE FACTOR, PERCENT				98.5		100.0		88.1		88.8			
MACHINE INDEX, PERCENT				96.6		102.0		106.5		103.8			

TABLE XXIX

SUMMARY OF TEST RESULTS FOR MACHINE BB

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		MAX.	MIN.	
BB-1	2-18-72	8-1	28.4	10.0	8.7	42.0	36.6	39.4	31.8	30.6	31.3	1.5	1.575
BB-2	2-18-72	8-2	28.2	9.9	9.0	40.8	35.4	38.5	32.0	28.6	30.4	1.5	1.574
CURRENT MACHINE AVERAGE				28.3		9.4		39.0		30.8			1.575
CUMULATIVE MACHINE AVERAGE				27.7		9.5		36.4		29.6			
MACHINE FACTOR, PERCENT				102.2		98.9		107.1		104.0			
MACHINE INDEX, PERCENT				106.4		93.1		93.5		98.7			

*See Table II for Footnotes A and B.

TABLE XXX
SUMMARY OF TEST RESULTS FOR MACHINE CC
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8			
				MAX. MIN.	AV.	MAX. MIN.	AV.	MAX. MIN.	AV.				
CC-1	2-9-72	155	26.2	11.0	10.0	10.6	45.0	41.4	43.6	34.6	31.2	32.6	1.562
CC-2	2-11-72	195	26.1	10.5	9.3	10.0	41.4	36.0	39.2	31.8	30.2	31.1	1.560
CC-3	2-12-72	204	25.4	10.9	9.3	10.0	52.2	45.0	49.0	35.0	33.2	34.2	1.573
CC-4	3-9-72	148	25.5	10.8	10.0	10.4	46.2	42.0	43.7	32.2	29.2	30.8	1.555
CC-5	3-21-72	411	24.9	10.6	9.9	10.2	45.0	39.0	41.8	31.2	29.0	30.2	1.560
CURRENT MACHINE AVERAGE			25.6			10.2			43.5			31.8	1.562
CUMULATIVE MACHINE AVERAGE			26.3			10.4			40.9			32.2	
MACHINE FACTOR, PERCENT			97.3			98.1			106.4			98.8	
MACHINE INDEX, PERCENT			96.2			101.0			104.3			101.9	

*See Table II for Footnotes A and B.
C Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XXXI
SUMMARY OF TEST RESULTS FOR MACHINE DD
MARCH AND APRIL, 1972

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY DRAW LB./IN.*A FACTOR*8			
				MAX. MIN.	AV.	MAX. MIN.	AV.	MAX. MIN.	AV.				
DD-1	2-28-72	4	27.6	9.9	9.0	9.4	37.8	30.6	35.0	28.4	26.0	27.1	1.564
CURRENT MACHINE AVERAGE			27.6			9.4			35.0			27.1	1.564
CUMULATIVE MACHINE AVERAGE			26.8			9.7			40.6			30.8	
MACHINE FACTOR, PERCENT			103.0			96.9			86.2			88.0	
MACHINE INDEX, PERCENT			103.8			93.1			83.9			86.8	

TABLE XXXII

SUMMARY OF TEST RESULTS FOR MACHINE EE

MARCH AND APRIL, 1972

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT.		CONCORDA FLAT CRUSH, P.S.I.		SINGLE-FACE FLAT CRUSH, P.S.I.		RUNNABILITY LB./IN.*A	DRAW FACTOR*8			
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			AV.		
EE-1		5017	26.8	10.2	10.0	10.1	38.4	36.6	37.4	29.0	27.2	28.3	1.0	1.567
CURRENT MACHINE AVERAGE			26.8		10.1		37.4		37.4		28.3			1.567
CUMULATIVE MACHINE AVERAGE			27.6		10.4		39.8		39.8		30.2			
MACHINE FACTOR, PERCENT			97.1		97.1		94.0		94.0		93.7			
MACHINE INDEX, PERCENT			100.8		100.0		89.7		89.7		90.7			

*See Table II for Footnotes A and B.

DISCUSSION OF RESULTS

Shown on page 2, Part II, Section "A" of the Summary are the maximum and minimum current machine averages obtained for each test property during the current period and the previous period. Also shown for each test property is the current F.K.I. average which represents the mean of the current machine averages and hence is indicative of the test level being maintained by the industry as a whole for each test property to the extent that the industry is represented by the participating machines. Also given for each test property is the cumulative F.K.I. average which represents the mean of the current F.K.I. averages for the previous six periods.

The runnability data for the 103 rolls evaluated during the current period and the 124 rolls evaluated during the previous period are summarized on page 2, Part II, Section "B" of the Summary.

Supplementary to the runnability data, draw factors were determined for each roll of medium at 600 f.p.m. with minimum tension (or, for rolls with poor runnability, at the maximum speed runnable with minimum tension) and are given in Tables II through XXXII for Machines A through Z and Machines AA, BB, CC, DD, and EE, respectively.

In Table XXXIII, an effort has been made to compare Institute and mill Concora flat crush test results for each machine for the current period. The following information is presented in this table: (1) Current machine average based on Institute data, (2) current machine average based on mill data, (3) the average difference -- that is, the difference between the current machine average based on Institute data and the current machine average based on mill data, and (4) the average differences expressed as percentage differences, along with the percentage differences of the previous two-month period. In those cases where mill Concora flat crush data

TABLE XXXIII

A COMPARATIVE SUMMARY FOR EACH MACHINE OF THE CONCORA
 FLAT CRUSH AVERAGES BASED ON INSTITUTE DATA AND MILL DATA

MARCH AND APRIL, 1972

Machine Code	No. of Rolls Compared	Concora Flat Crush, p.s.i.			Av. Diff., % ^c	
		I.P.C. ^a Av.	Mill ^a Av.	Av. Diff. ^b	Current	Previous
A	4	40.8	42.2	+1.4	+3.4	+8.1
B	3	36.9	34.3 _d	-2.6	-7.0	-9.7
C	0	38.3	--	--	--	-3.8
D	2	45.4	42.4	-3.0	-6.6	-1.1
E	4	44.6	41.9	-2.7	-6.1	-5.6
F	4	44.2	45.3	+1.1	+2.5	+2.1
G	4	43.2	42.6	-0.6	-1.4	+4.0
H	4	43.3	39.3	-4.0	-9.2	-6.5
I	0	38.4	-- ^d	--	--	-6.6
J	0	41.2	-- ^d	--	--	--
K	4	39.2	40.3	+1.1	+2.8	+10.9
L	4	39.0	39.8	+0.8	+2.1	+3.6
M	4	42.7	43.0	+0.3	+0.7	+0.5
N	4	42.0	43.2	+1.2	+2.9	+0.3
O	4	39.9	38.4	-1.5	-3.8	-3.8
P	5	40.0	40.7	+0.7	+1.8	+0.9
Q	3	34.3	34.2	-0.1	-0.3	-1.8
R	4	41.2	44.4	+3.2	+7.8	+10.5
S	5	38.2	37.6	-0.6	-1.6	+7.1
T	4	40.2	40.6	+0.4	+1.0	+4.4
U	3	42.0	41.5	-0.5	-1.2	-1.6
V	2	46.7	42.7	-4.0	-8.6	-5.9
W	4	41.4	42.2 ^d	+0.8	+1.9	-0.9
X	0	35.8	--	--	--	-10.5
Y	4	43.1	44.6	+1.5	+3.5	+0.5
Z	4	38.1	38.5	+0.4	+1.0	-0.6
AA	2	44.4	44.8	+0.4	+0.9	--
BB	2	39.0	38.8	-0.2	-0.5	0.0
CC	5	43.5	43.1	-0.4	-0.9	+4.0
DD	1	35.0	35.0 ^d	0.0	0.0	+4.7
EE	0	37.4	--	--	--	-3.4

^aComparisons based on current machine average include only those rolls for which mill data were submitted.

^bAverage difference is the difference between the current machine average based on Institute test results and that based on mill test results with the Institute test results used as the reference.

^cAverage difference (percent) is computed by dividing the average difference in p.s.i. by the Institute current machine average and multiplying by 100.

^dNo mill data available.

are still obtained on specimens conditioned after fluting, no average differences between current machine averages based on Institute and mill data are shown. The inclusion of these comparisons is made possible by the fact that interested participants submit their Concora flat crush results to The Institute of Paper Chemistry (on data sheets obtainable from the Institute). This affords each participant an opportunity to review the level of agreement noted for his data with the levels noted for the other participants. Comparisons of this kind are a helpful adjunct to other calibration procedures.

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