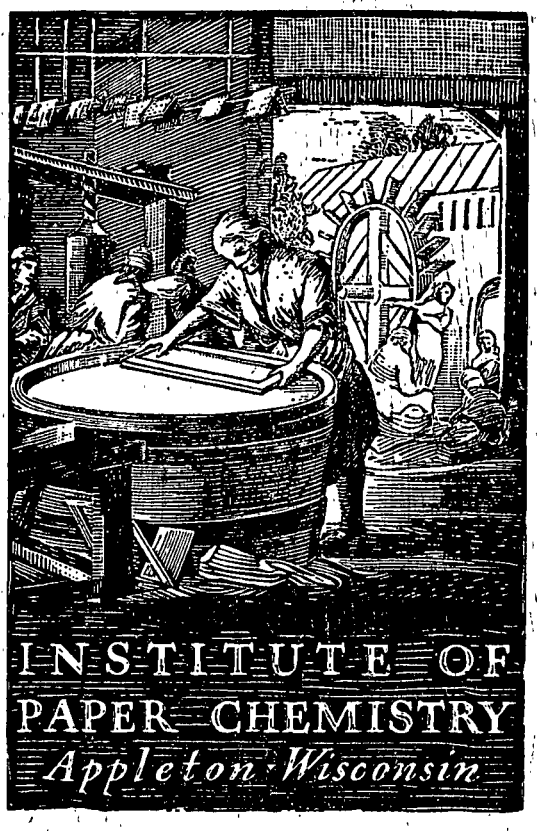
BASE-LINE
(May-June, 1968)



CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

(Data for May and June, 1968)

Project 2694-2

Report Eight

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

July 15, 1968

Code Letters: Project 2694-2

(Report Eight)

	Company - Mill - Machine		Code
1)	Alton Box Board Company	- Alton No. 3	V
		- Alton No. 4	E
2)	Container Corp. of America	- Circleville No. 5	T
3)	Continental Can Co., Inc.	- Hodge No. 1	B
		- Hopewell No. 1	N
4)	Crown Zellerbach Corp.	- Baltimore No. 1	L
		- Baltimore No. 2	S
		- Bogalusa No. 4	F
5)	Great Northern Paper Company	- Cedar Springs No. 3	FF
6)	Hoerner Waldorf Corp.	- Ontonagon No. 1	C
		- St. Paul No. 4	D
		- St. Paul No. 5	O
7)	International Paper Company	- Bastrop No. 1	J
		- Bastrop No. 2	W
		- Georgetown No. 1	Q
8)	The Mead Corporation	- Harriman No. 1	Y
		- Sylva No. 1	M
		- Sylva No. 2	Z
9)	Olinkraft, Inc.	- West Monroe No. 2	DD
10)	Owens-Illinois, Inc.	- Big Island No. 1	AA
		- Big Island No. 3	G
		- Tomahawk No. 1	BB
		- Tomahawk No. 2	K
		- Tomahawk No. 3	U
11)	Packaging Corp. of America	- Filer City No. 1	X
		- Filer City No. 2	I
12)	Union Camp Corporation	- Savannah No. 2	A
13)	West Va. Pulp & Paper Co.	- Covington No. 6	CC
		- Williamsburg No. 1	H
		- Williamsburg No. 2	R
14)	Weyerhaeuser Company	- Longview No. 4	P
		- Plymouth No. 3	EE

Non-participants in current report:

1)	The Chesapeake Corporation	- West Point No. 1	--
2)	Crown Zellerbach Corporation	- Lebanon No. 2	--
3)	The Mead Corporation	- Knoxville No. 1	--
		- Lynchburg No. 2	--
4)	Olinkraft, Inc.	- West Monroe No. 1	--
		- West Monroe No. 3	--
5)	St. Joe Paper Company	- Port St. Joe No. 1	--
6)	St. Regis Paper Company	- Coshocton No. 1	--
7)	Union Camp Corporation	- Monroe No. 2	--
8)	West Va. Pulp & Paper Company	- Covington No. 7	--

BASE-LINE
(May-June, 1968)

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

(Data for May and June, 1968)

Project 2694-2

Report Eight

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

July 15, 1968

TABLE OF CONTENTS

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM
(Data for May and June, 1968)

SUMMARY

PART I. GENERAL

A. Participation Data:

	Current Period	Previous Period
Period	May-June, 1968	March-April, 1968
Number of machines	32	32
Number of rolls	104	111

B. Distribution of Mediums by Type:

Semichemical	30	30
Bogus	2	2

C. New Participants:

Current Period	Previous Period
1. Weyerhaeuser (Longview No. 4)	None

D. Nonparticipants:

Current Period	Previous Period
1. Chesapeake (West Point)	1. Chesapeake (West Point)
2. Crown Zellerbach (Lebanon No. 2)	2. Crown Zellerbach (Lebanon No. 2)
3. Mead (Knoxville No. 1 and Lynchburg No. 2)	3. Mead (Lynchburg No. 2)
4. Olinkraft (W. Monroe No. 1 and 3)	4. Olinkraft (W. Monroe No. 1 and 3)
5. St. Joe (Port St. Joe No. 1)	5. St. Joe (Port St. Joe No. 1)
6. St. Regis (Coshocton No. 1)	6. St. Regis (Coshocton No. 1)
7. Union Camp (Monroe No. 2)	7. Union Camp (Monroe No. 2)
8. West Virginia (Covington No. 7)	8. West Virginia (Covington No. 7)

PART II. QUALITY DATA

A. Summary of Physical Test Data

Test	Report	Current Machine Averages Max.	Current Machine Averages Min.	F.K.I. Averages Current	F.K.I. Averages Cumulative
Basis weight, lb./1000 ft.^{2}	Cur.	28.9	25.8	27.0	27.1
	Prev.	28.5	24.9	27.0	27.1
Caliper, pt.	Cur.	11.5	9.3	10.4	10.4
	Prev.	11.4	9.6	10.5	10.4
Concora flat crush, p.s.i.	Cur.	50.6	40.1	43.6	43.0
	Prev.	48.7	38.2	43.0	--
Single-face flat crush, p.s.i.	Cur.	38.7	30.2	33.2	32.9
	Prev.	36.5	28.5	32.1	32.7

B. Summary of Runnability Data

Runnability Speed, f.p.m.	Runnability Tension, lb./in.	Current Period No. of Rolls	Current Period % of Total	Current Period Cum., %	Previous Period No. of Rolls	Previous Period % of Total	Previous Period Cum., %
<600	Min.	9	8.7	100.0	12	10.8	100.0
600	Min.	10	9.6	91.3	16	14.4	89.2
600	1/2	18	17.3	81.7	13	11.7	74.8
600	1	21	20.2	64.4	11	9.9	63.1
600	1-1/2	46	44.2	44.2	59	53.2	53.2

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

Physical Tests:

Basis weight: Same as previous report.

Caliper: Decreased from 10.5 to 10.4 pt.

Concora flat crush: Increased from 43.0 to 43.6 p.s.i.

Single-face flat crush: Increased from 32.1 to 33.2 p.s.i.

Comment: It may be noted that only minor quality changes are indicated for basis weight, caliper, and Concora flat crush. The increase in single-face flat crush, however, appears to be rather large.

Runnability:

<600 f.p.m. at minimum tension: Decreased from 10.8 to 8.7%.

600 f.p.m. at minimum tension: Decreased from 14.4 to 9.6%.

600 f.p.m. at 1/2 lb./in. tension: Increased from 11.7 to 17.3%.

600 f.p.m. at 1 lb./in. tension: Increased from 9.9 to 20.2%.

600 f.p.m. at 1-1/2 lb./in. tension: Decreased from 53.2 to 44.2%.

Comment: Significant changes in runnability were noted at all levels and, in general, the changes were favorable. For example, the percentage of all rolls runnable at less than 600 f.p.m. with minimum tension decreased, the percentage of all rolls runnable at 600 f.p.m. with minimum tension also decreased, and the percentages of all rolls runnable at 600 f.p.m. with either 0.5 lb./in. or 1.0 lb./in. tension increased. The only unfavorable change was the reduction in the percentage of all rolls runnable at 600 f.p.m. with 1.5 lb./in. tension.

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 1, 1961. Report Five, however, covered a period of three months - Aug., Sept., and Oct. This adjustment was requested by the Technical Division in order to have future bimonthly base-line reports on corrugating medium correspond, in terms of the period covered, to the bimonthly base-line reports on linerboard. It should also be noted, with regard to the periods covered by these reports, that the base-line study on corrugating medium was temporarily discontinued during the months of November and December, 1967, in accordance with instructions from the Technical Division. Hence, no report is available for these two months. The study was resumed on January 1, 1968, and the current report summarizes the data obtained during May and June, 1968, on 104 rolls of corrugating medium submitted for evaluation from thirty-two machines.

Each roll was evaluated for basis weight, caliper, Concora flat crush (tested immediately after fluting), H. and D. flat crush on single-faced board, and runnability. The reader's attention is directed to the fact that the current base-line report is the second one in which Concora flat crush results were obtained on specimens tested immediately after fluting. 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. per 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 and presented graphically in Fig. 1 and 2. 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

TABLE I

SUMMARY OF CURRENT MACHINE AVERAGES

MAY AND JUNE, 1968

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	26.8	10.2	42.4	33.8
B	3	SEMICHEMICAL	26.5	9.6	41.6	33.0
C	2	SEMICHEMICAL	27.1	11.0	41.0	30.5
D	3	SEMICHEMICAL	27.0	11.3	42.9	30.2
E	4	SEMICHEMICAL	28.9	11.5	42.4	31.0
F	4	SEMICHEMICAL	27.5	10.0	42.5	33.0
G	2	SEMICHEMICAL	26.8	11.4	47.3	35.1
H	4	SEMICHEMICAL	27.2	9.8	42.7	31.9
I	4	SEMICHEMICAL	26.2	9.3	43.7	32.2
J	3	SEMICHEMICAL	27.3	10.5	45.6	36.2
K	4	SEMICHEMICAL	27.2	10.3	50.6	38.1
L	4	BOGUS	26.2	9.7	42.2	31.8
M	2	SEMICHEMICAL	27.4	10.4	44.6	33.1
N	4	SEMICHEMICAL	27.5	10.2	42.7	33.8
O	3	SEMICHEMICAL	26.4	10.6	41.1	31.3
P	2	SEMICHEMICAL	26.6	9.6	41.4	32.7
Q	4	SEMICHEMICAL	28.6	10.2	48.3	38.7
R	4	SEMICHEMICAL	27.6	9.8	44.0	32.6
S	4	BOGUS	26.6	10.0	41.5	33.2
T	4	SEMICHEMICAL	26.4	10.2	40.3	31.5
U	4	SEMICHEMICAL	26.8	10.4	43.2	33.6
V	4	SEMICHEMICAL	28.0	10.7	42.0	31.5
W	4	SEMICHEMICAL	26.2	10.3	44.0	34.3
X	4	SEMICHEMICAL	26.9	9.4	44.8	33.9
Y	4	SEMICHEMICAL	27.8	10.9	43.9	31.2
Z	2	SEMICHEMICAL	26.4	10.4	44.3	33.4
AA	4	SEMICHEMICAL	26.1	10.5	43.6	32.6
BB	4	SEMICHEMICAL	26.8	9.4	47.3	35.4
CC	2	SEMICHEMICAL	27.0	11.3	43.5	32.8
DD	1	SEMICHEMICAL	27.1	11.1	40.1	32.7
EE	1	SEMICHEMICAL	27.0	10.9	48.5	35.6
FF	2	SEMICHEMICAL	25.8	11.0	41.7	32.9
TOTAL	104					
CURRENT F.K.I. AVERAGE			27.0	10.4	43.6	33.2
CUMULATIVE F.K.I. AVERAGE			27.1	10.4	43.0	32.9
F.K.I. INDEX, PERCENT			99.6	100.0	101.4	100.9

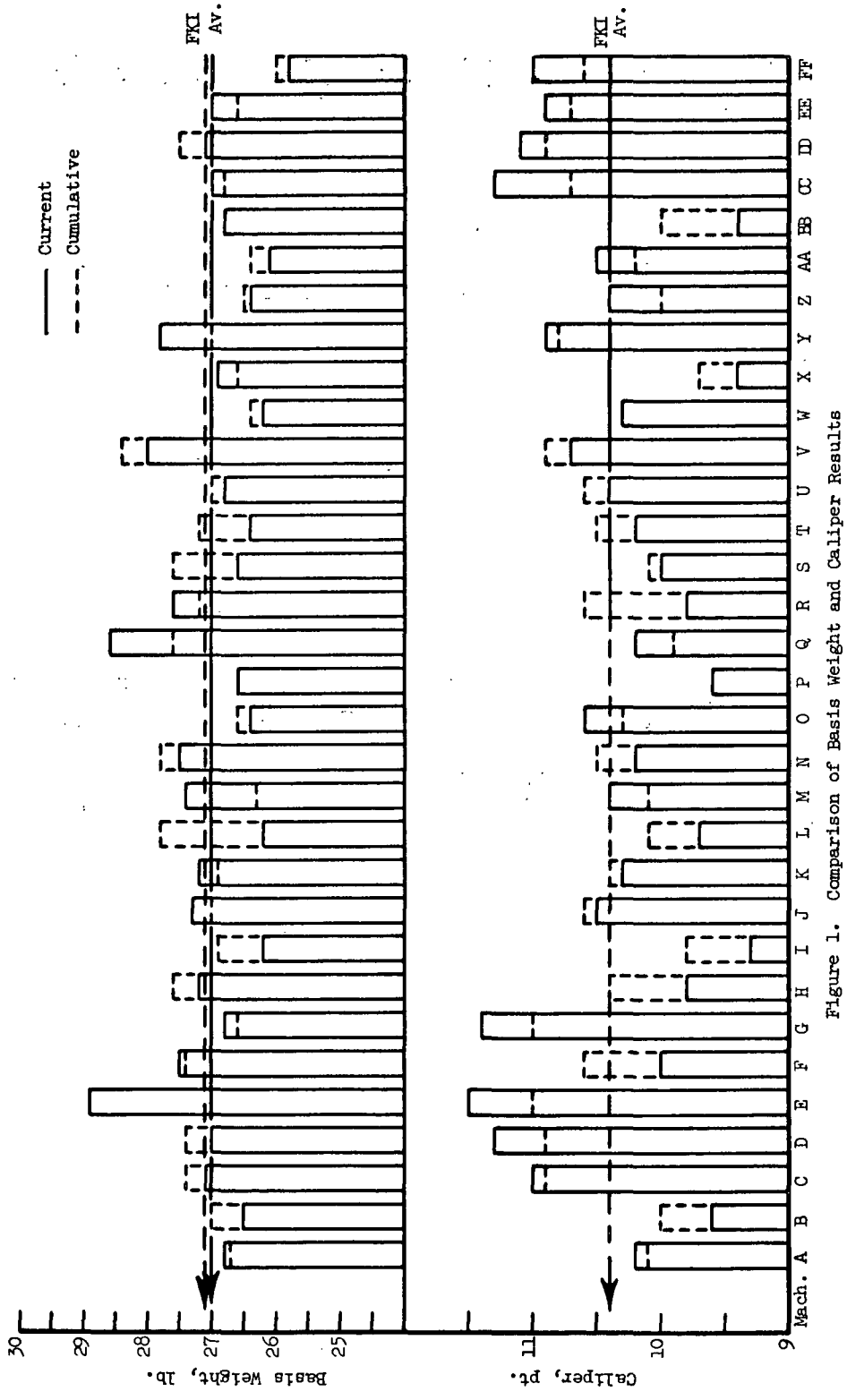


Figure 1. Comparison of Basis Weight and Caliper Results

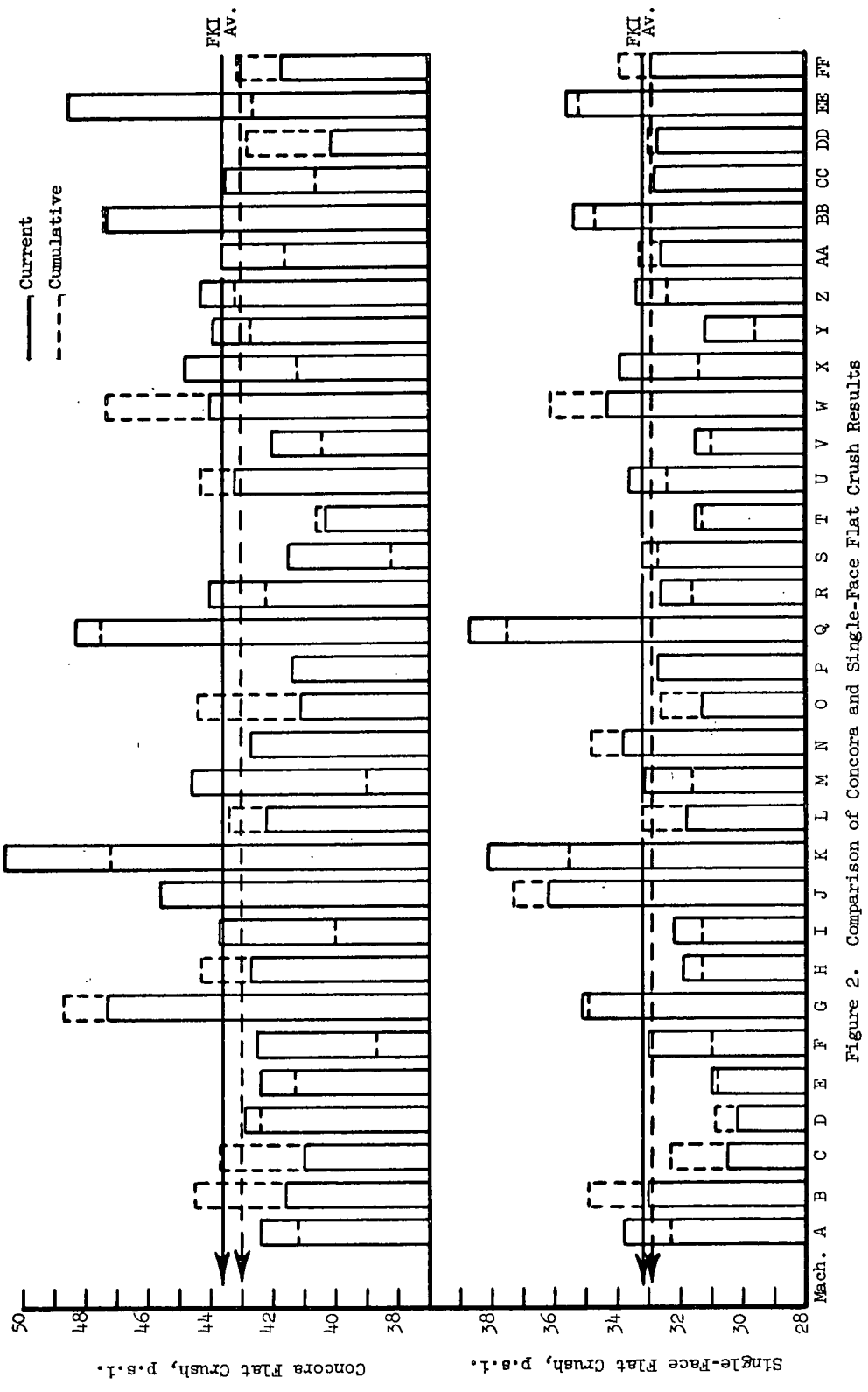


Figure 2. Comparison of Concora and Single-Face Flat Crush Results

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.

The test results obtained on the rolls submitted from the production of individual machines during the current period are shown in Tables II through XXXIII for Machines A through Z and Machines AA, BB, CC, DD, EE, and FF, 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 XXXIII are a machine factor and machine index which are defined as follows:

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

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

TABLE II

SUMMARY OF TEST RESULTS FOR MACHINE A

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	DRAW FACTOR*B
A-1	4-17-68	769	25.8	10.9	9.3	10.0	44.4	37.2	40.8	33.2	29.0	30.8	MIN.	1.556
A-2	5-14-68	772	28.1	10.9	9.5	10.2	52.2	43.8	47.0	39.8	36.2	38.5	1.5	1.568
A-3	5-24-68	773	27.0	10.9	10.0	10.4	43.2	34.8	39.4	35.4	33.0	34.0	1.5	1.563
A-4	6-13-68	774	26.4	11.0	9.3	10.1	44.4	39.6	42.2	32.6	30.2	31.7	1.5	1.570
CURRENT MACHINE AVERAGE			26.8			10.2			42.4			33.8		1.564
CUMULATIVE MACHINE AVERAGE			26.7			10.1			41.2			32.3		
MACHINE FACTOR, PERCENT			100.4			101.0			102.9			104.6		
MACHINE INDEX, PERCENT			98.9			98.1			98.6			102.7		

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

TABLE III

SUMMARY OF TEST RESULTS FOR MACHINE B

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

B-1	4-15-68	206	26.0	10.0	9.0	9.5	46.8	40.8	43.1	35.6	31.4	33.8	NOTE C	1.543
B-2	5-20-68	207	26.9	10.0	9.0	9.6	41.4	39.0	40.8	34.4	32.2	33.5	1.5	1.565
B-3	5-27-68	208	26.6	10.9	8.9	9.7	42.6	39.0	40.8	32.8	30.6	31.8	1.5	1.567
CURRENT MACHINE AVERAGE			26.5			9.6			41.6			33.0		1.558
CUMULATIVE MACHINE AVERAGE			27.0			10.0			44.5			34.9		
MACHINE FACTOR, PERCENT			98.1			96.0			93.5			94.6		
MACHINE INDEX, PERCENT			97.8			92.3			96.7			100.3		

*See Table II for Notes A and B.
[C]Maximum speed at which this roll could be corrugated with minimum tension was 400 f.p.m.

TABLE IV

SUMMARY OF TEST RESULTS FOR MACHINE C

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
C-1	4- 9-68	156	26.9	11.4	10.7	11.0	43.2	36.0	39.6	31.4	28.6	29.8	MIN.	1.555
C-2	4-10-68	157	27.3	11.2	10.5	10.9	45.0	40.2	42.5	32.6	29.6	31.2	NOTE C	1.552
CURRENT MACHINE AVERAGE			27.1			11.0			41.0			30.5		1.553
CUMULATIVE MACHINE AVERAGE			27.4			10.9			43.7			32.3		
MACHINE FACTOR, PERCENT			98.9			100.9			93.8			94.4		
MACHINE INDEX, PERCENT			100.0			105.8			95.3			92.7		

TABLE V

SUMMARY OF TEST RESULTS FOR MACHINE D

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
D-1	4-24-68	6461	27.3	12.0	10.9	11.5	45.0	38.4	41.9	30.2	28.8	29.6	1.0	1.571
D-2	5-15-68	4263	27.0	12.5	11.4	12.0	46.8	39.6	43.7	30.8	28.2	30.0	0.5	1.566
D-3	6-16-68	1932	26.8	10.8	10.3	10.5	46.2	41.4	43.2	32.6	30.0	30.9	1.5	1.574
CURRENT MACHINE AVERAGE			27.0			11.3			42.9			30.2		1.570
CUMULATIVE MACHINE AVERAGE			27.4			10.9			42.4			30.9		
MACHINE FACTOR, PERCENT			98.5			103.7			101.2			97.7		
MACHINE INDEX, PERCENT			99.6			108.6			99.8			91.8		

*See Table II for Notes A and B.

C Maximum speed at which this roll could be corrugated with minimum tension was 525 f.p.m.

TABLE VI

SUMMARY OF TEST RESULTS FOR MACHINE E

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
E-1	4-22-68	1388	28.7	12.4	11.6	11.9	46.2	44.4	45.8	33.6	32.0	33.1	0.5	1.560
E-2	5- 1-68	1929	30.1	12.5	11.5	12.1	45.6	40.8	43.3	33.2	31.6	32.5	1.0	1.560
E-3	5-29-68	3889	28.0	12.2	11.0	11.7	39.0	33.6	36.1	26.2	24.4	25.3	1.5	1.559
E-4	6- 4-68	4345	28.7	10.7	10.0	10.3	46.8	42.6	44.2	34.0	31.8	33.2	0.5	1.542
CURRENT MACHINE AVERAGE			28.9			11.5			42.4			31.0		1.555
CUMULATIVE MACHINE AVERAGE			28.9			11.0			41.3			30.8		
MACHINE FACTOR, PERCENT			100.0			104.5			102.7			100.6		
MACHINE INDEX, PERCENT			106.6			110.6			98.6			94.2		

TABLE VII

SUMMARY OF TEST RESULTS FOR MACHINE F

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

F-1	3-27-68	K-4	26.8	10.0	9.0	9.6	48.6	40.8	43.6	35.4	33.2	34.0	1.5	1.568
F-2	4- 2-68	K-5	28.9	11.2	10.5	10.9	48.6	41.4	45.7	37.6	35.2	36.0	MIN.	1.559
F-3	4-17-68	K-6	26.5	9.8	8.5	9.1	43.2	40.8	41.6	31.8	30.0	30.8	1.0	1.558
F-4	4-24-68	K-7	27.9	10.6	9.6	10.2	42.6	36.0	39.1	33.4	29.6	31.4	1.5	1.570
CURRENT MACHINE AVERAGE			27.5			10.0			42.5			33.0		1.563
CUMULATIVE MACHINE AVERAGE			27.4			10.6			38.7			31.0		
MACHINE FACTOR, PERCENT			100.4			94.3			109.8			106.4		
MACHINE INDEX, PERCENT			101.5			96.2			98.8			100.3		

*See Table II for Notes A and B.

TABLE VIII

SUMMARY OF TEST RESULTS FOR MACHINE G

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
G-1	4- 2-68	459	27.0	12.2	10.6	11.3	48.6	42.6	46.1	36.0	32.4	33.8	NOTE C	1.546
G-2	4-10-68	2428	26.6	12.0	10.8	11.4	53.4	44.4	48.5	38.8	35.6	36.4	MIN.	1.546
CURRENT MACHINE AVERAGE			26.8			11.4			47.3			35.1		1.546
CUMULATIVE MACHINE AVERAGE			26.6			11.0			48.7			34.9		
MACHINE FACTOR, PERCENT			100.8			103.6			97.1			100.6		
MACHINE INDEX, PERCENT			98.9			109.6			110.0			106.7		

TABLE IX

SUMMARY OF TEST RESULTS FOR MACHINE H

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

H-1	3-19-68	196	26.9	10.3	9.5	10.0	43.8	40.8	42.2	32.4	30.0	31.0	0.5	1.560
H-2	4-17-68	197	26.9	9.8	9.0	9.5	42.6	40.2	41.4	31.4	28.4	29.8	0.5	1.557
H-3	4-22-68	198	27.5	9.9	9.3	9.7	48.0	43.2	45.2	34.6	33.2	34.1	1.0	1.562
H-4	5- 8-68	201	27.4	10.0	9.0	9.8	44.4	39.6	42.1	35.2	31.0	32.6	1.5	1.571
CURRENT MACHINE AVERAGE			27.2			9.8			42.7			31.9		1.562
CUMULATIVE MACHINE AVERAGE			27.6			10.4			44.3			31.3		
MACHINE FACTOR, PERCENT			98.6			94.2			96.4			101.9		
MACHINE INDEX, PERCENT			100.4			94.2			99.3			97.0		

*See Table II for Notes A and B.

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

TABLE X

SUMMARY OF TEST RESULTS FOR MACHINE I

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
I-1	4-24-68	308	26.2	10.0	9.0	9.5	45.0	40.8	42.4	32.6	30.6	31.6	1.5	1.572
I-2	5- 4-68	309	26.0	9.5	8.5	8.8	46.2	42.6	44.9	34.4	32.0	33.2	1.5	1.569
I-3	5-21-68	310	27.1	10.2	9.5	9.9	47.4	38.4	44.3	34.2	31.6	32.5	1.5	1.566
I-4	6- 3-68	311	25.6	9.2	8.6	9.0	45.6	40.8	43.1	32.2	30.8	31.5	1.5	1.567
CURRENT MACHINE AVERAGE			26.2			9.3			43.7			32.2		1.568
CUMULATIVE MACHINE AVERAGE			26.9			9.8			40.0			31.3		
MACHINE FACTOR, PERCENT			97.4			94.9			109.2			102.9		
MACHINE INDEX, PERCENT			96.7			89.4			101.6			97.9		

TABLE XI

SUMMARY OF TEST RESULTS FOR MACHINE J

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

J-1	4-26-68	808	28.7	11.1	10.4	10.8	48.6	40.2	44.8	38.4	35.4	37.0	1.0	1.554
J-2	4-29-68	809	26.8	10.7	9.6	10.2	48.6	43.2	46.0	37.8	33.4	35.7	0.5	1.555
J-3	5-31-68	810	26.5	10.9	10.1	10.5	47.4	44.4	46.1	36.6	34.6	35.8	1.0	1.547
CURRENT MACHINE AVERAGE			27.3			10.5			45.6			36.2		1.552
CUMULATIVE MACHINE AVERAGE			27.0			10.6			45.6			37.3		
MACHINE FACTOR, PERCENT			101.1			99.0			100.0			97.0		
MACHINE INDEX, PERCENT			100.7			101.0			106.0			110.0		

*See Table II for Notes A and B.

TABLE XII

SUMMARY OF TEST RESULTS FOR MACHINE K

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
K-1	4-28-68		27.4	10.8	10.1	10.5	50.4	46.2	49.1	39.2	36.0	37.5	1.0	1.561
K-2	4-29-68		27.4	10.9	10.1	10.5	52.8	47.4	49.9	38.4	35.0	36.4	1.0	1.562
K-3	5-24-68		27.1	10.7	10.0	10.2	55.8	49.8	52.8	41.2	37.8	39.2	1.5	1.556
K-4	5-25-68		27.0	10.5	9.9	10.1	54.0	48.0	50.6	40.6	38.6	39.4	1.0	1.560
CURRENT MACHINE AVERAGE			27.2			10.3			50.6			38.1		1.559
CUMULATIVE MACHINE AVERAGE			26.9			10.4			47.2			35.5		
MACHINE FACTOR, PERCENT			101.1			99.0			107.2			107.3		
MACHINE INDEX, PERCENT			100.4			99.0			117.7			115.8		

TABLE XIII

SUMMARY OF TEST RESULTS FOR MACHINE L

MAY AND JUNE, 1968

TYPE OF MEDIUM- BOGUS

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
L-1	4-11-68	404	25.5	10.2	9.1	9.8	42.0	37.2	39.7	29.6	27.2	28.5	1.5	1.569
L-2	4-19-68	405	26.0	9.9	8.7	9.3	48.0	43.2	45.2	32.8	29.4	31.5	1.5	1.571
L-3	5- 9-68	406	27.1	10.7	10.0	10.2	45.6	40.2	42.8	35.8	32.2	34.3	1.5	1.562
L-4	5-24-68	407	26.3	9.9	9.2	9.5	43.8	37.8	41.3	33.6	31.6	32.8	1.5	1.563
CURRENT MACHINE AVERAGE			26.2			9.7			42.2			31.8		1.566
CUMULATIVE MACHINE AVERAGE			27.8			10.1			43.4			33.2		
MACHINE FACTOR, PERCENT			94.2			96.0			97.2			95.8		
MACHINE INDEX, PERCENT			96.7			93.3			98.1			96.6		

*See Table II for Notes A and B.

TABLE XIV

SUMMARY OF TEST RESULTS FOR MACHINE M

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
M-1	4-26-68	7	27.1	10.7	9.9	10.3	45.0	42.0	43.2	32.2	29.8	31.0	1.0	1.551
M-2	5-23-68	9	27.7	10.9	10.3	10.4	48.6	43.2	46.0	36.8	33.2	35.2	1.5	1.552
CURRENT MACHINE AVERAGE			27.4			10.4			44.6			33.1		1.551
CUMULATIVE MACHINE AVERAGE			26.3			10.1			39.0			31.6		
MACHINE FACTOR, PERCENT			104.2			103.0			114.4			104.7		
MACHINE INDEX, PERCENT			101.1			100.0			103.7			100.6		

TABLE XV

SUMMARY OF TEST RESULTS FOR MACHINE N

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
N-1	3-13-68	641	26.5	10.3	10.0	10.2	46.8	42.0	44.0	33.2	31.8	32.4	1.5	1.567
N-2	4-11-68	644	28.2	10.7	10.1	10.5	44.4	39.0	41.0	34.6	32.6	33.7	1.0	1.557
N-3	4-18-68	645	28.2	10.8	9.4	10.3	43.8	39.0	41.9	35.8	33.0	34.6	1.0	1.561
N-4	4-25-68	646	27.2	10.0	10.0	10.0	46.2	41.4	44.0	35.8	32.4	34.6	1.5	1.562
CURRENT MACHINE AVERAGE			27.5			10.2			42.7			33.8		1.561
CUMULATIVE MACHINE AVERAGE			27.8			10.5			42.7			34.8		
MACHINE FACTOR, PERCENT			98.9			97.1			100.0			97.1		
MACHINE INDEX, PERCENT			101.5			98.1			99.3			102.7		

*See Table II for Notes A and B.

TABLE XVI

SUMMARY OF TEST RESULTS FOR MACHINE O

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY DRAW LB./IN.*A	RUNNABILITY DRAW FACTOR*B
O-1	4-24-68	8372	26.3	11.0	10.2	10.5	43.2	37.8	41.5	32.2	30.2	31.3	1.5	1.570
O-2	5-16-68	5681	26.4	10.6	10.0	10.2	41.4	36.6	39.2	34.6	29.4	32.0	1.5	1.564
O-3	6-16-68	122	26.5	11.3	10.5	11.0	45.6	40.2	42.5	31.6	29.4	30.7	1.0	1.561
CURRENT MACHINE AVERAGE			26.4			10.6			41.1			31.3		1.565
CUMULATIVE MACHINE AVERAGE			26.6			10.3			44.4			32.6		
MACHINE FACTOR, PERCENT			99.2			102.9			92.6			96.0		
MACHINE INDEX, PERCENT			97.4			101.9			95.6			95.1		

TABLE XVII

SUMMARY OF TEST RESULTS FOR MACHINE P

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY DRAW LB./IN.*A	RUNNABILITY DRAW FACTOR*B
P-1	5- 9-68	5738	25.2	9.9	9.5	9.7	48.0	35.4	40.7	34.8	28.8	32.4	1.0	1.560
P-2	5-14-68	5884	27.9	10.1	8.9	9.6	42.6	40.2	42.0	35.6	28.6	33.0	NOTE C	1.539
CURRENT MACHINE AVERAGE			26.6			9.6			41.4			32.7		1.549
CUMULATIVE MACHINE AVERAGE														
MACHINE FACTOR, PERCENT														
MACHINE INDEX, PERCENT			98.2			92.3			96.3			99.4		

*See Table II for Notes A and B.

[C] Maximum speed at which this roll could be corrugated with minimum tension was 100 f.p.m.

TABLE XVIII

SUMMARY OF TEST RESULTS FOR MACHINE Q

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
Q-1	3-22-68	679	27.9	10.3	10.0	10.1	52.8	43.2	49.2	41.0	37.8	39.3	1.5	1.564
Q-2	4- 4-68	680	28.9	10.5	9.9	10.2	49.2	46.8	48.4	41.2	40.2	40.7	1.5	1.564
Q-3	4-17-68	681	29.7	10.5	9.8	10.3	51.6	43.2	48.2	40.8	37.6	39.3	1.5	1.559
Q-4	5- 8-68	682	28.1	10.2	9.6	10.0	51.6	44.4	47.5	36.4	34.2	35.4	1.5	1.571
CURRENT MACHINE AVERAGE			28.6			10.2			48.3			38.7		1.564
CUMULATIVE MACHINE AVERAGE			27.6			9.9			47.5			37.5		
MACHINE FACTOR, PERCENT			103.6			103.0			101.7			103.2		
MACHINE INDEX, PERCENT			105.5			98.1			112.3			117.6		

TABLE XIX

SUMMARY OF TEST RESULTS FOR MACHINE R

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

R-1	4-23-68	199	27.9	10.7	9.7	10.2	43.8	41.4	42.5	31.4	30.0	30.8	0.5	1.553
R-2	4-30-68	200	27.6	10.0	9.3	9.7	50.4	42.0	46.7	34.6	33.2	34.0	0.5	1.556
R-3	5- 9-68	202	27.2	10.0	9.6	9.9	47.4	40.8	43.4	34.0	31.4	32.4	0.5	1.550
R-4	5-23-68	204	27.6	9.7	9.0	9.3	46.8	40.2	43.6	35.2	30.8	33.0	1.0	1.552
CURRENT MACHINE AVERAGE			27.6			9.8			44.0			32.6		1.552
CUMULATIVE MACHINE AVERAGE			27.2			10.6			42.2			31.6		
MACHINE FACTOR, PERCENT			101.5			92.4			104.3			103.2		
MACHINE INDEX, PERCENT			101.8			94.2			102.3			99.1		

*See Table II for Notes A and B.

TABLE XX

SUMMARY OF TEST RESULTS FOR MACHINE S

MAY AND JUNE, 1968

TYPE OF MEDIUM- BOGUS

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
S-1	4-11-68	504	27.4	10.2	9.7	10.0	45.0	39.6	43.0	36.8	33.6	35.1	1.5	1.546
S-2	4-24-68	505	26.6	10.3	9.4	9.9	45.0	42.0	43.8	36.2	31.2	33.6	1.5	1.562
S-3	5-10-68	506	26.3	10.3	9.5	9.9	43.2	36.0	38.9	32.8	31.2	31.8	1.5	1.564
S-4	5-24-68	507	26.2	10.3	9.5	10.0	43.2	36.0	40.4	34.2	31.0	32.1	1.5	1.554
CURRENT MACHINE AVERAGE			26.6			10.0			41.5			33.2		1.556
CUMULATIVE MACHINE AVERAGE			27.6			10.1			38.2			32.7		
MACHINE FACTOR, PERCENT			96.4			99.0			108.6			101.5		
MACHINE INDEX, PERCENT			98.2			96.2			96.5			100.9		

TABLE XXI

SUMMARY OF TEST RESULTS FOR MACHINE T

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

T-1	4-15-68	173	26.1	10.2	9.8	10.0	39.0	37.2	38.3	32.2	29.6	31.0	1.5	1.566
T-2	4-29-68	174	26.2	10.2	10.0	10.0	40.2	38.4	39.2	29.6	27.4	28.7	1.5	1.567
T-3	5- 3-68	175	26.6	10.7	10.1	10.4	43.2	39.0	41.3	33.6	31.2	32.8	0.5	1.556
T-4	5-23-68	176	26.8	10.6	10.0	10.3	48.0	39.6	42.5	34.6	32.0	33.5	0.5	1.555
CURRENT MACHINE AVERAGE			26.4			10.2			40.3			31.5		1.561
CUMULATIVE MACHINE AVERAGE			27.2			10.5			40.6			31.3		
MACHINE FACTOR, PERCENT			97.0			97.1			99.3			100.6		
MACHINE INDEX, PERCENT			97.4			98.1			93.7			95.7		

*See Table II for Notes A and B.

TABLE XXII

SUMMARY OF TEST RESULTS FOR MACHINE U

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
U-1	4-28-68		27.1	10.7	10.1	10.5	48.0	40.8	44.4	34.6	31.4	33.1	1.0	1.558
U-2	4-29-68		26.2	10.7	10.0	10.3	44.4	39.0	42.8	34.0	31.4	32.4	1.0	1.564
U-3	5-24-68		27.6	11.0	10.1	10.6	45.0	40.8	43.4	36.8	33.4	35.0	0.5	1.557
U-4	5-25-68		26.5	10.7	10.0	10.3	48.0	37.8	42.2	35.4	32.4	34.1	1.0	1.559
CURRENT MACHINE AVERAGE			26.8			10.4			43.2			33.6		1.559
CUMULATIVE MACHINE AVERAGE			27.0			10.6			44.3			32.4		
MACHINE FACTOR, PERCENT			99.2			98.1			97.5			103.7		
MACHINE INDEX, PERCENT			98.9			100.0			100.5			102.1		

TABLE XXIII

SUMMARY OF TEST RESULTS FOR MACHINE V

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
V-1	4-22-68	1541	29.8	11.0	10.2	10.5	46.2	42.0	44.0	35.0	30.8	33.6	NOTE C	1.538
V-2	5- 1-68	2214	27.5	11.1	10.2	10.7	41.4	36.0	39.2	29.6	27.6	28.8	0.5	1.543
V-3	5-29-68	4354	28.9	11.5	10.7	11.1	44.4	40.8	42.6	32.8	31.8	32.2	1.5	1.558
V-4	6- 4-68	4809	26.0	11.1	10.2	10.6	45.6	41.4	42.4	32.4	30.6	31.4	0.5	1.548
CURRENT MACHINE AVERAGE			28.0			10.7			42.0			31.5		1.546
CUMULATIVE MACHINE AVERAGE			28.4			10.9			40.4			31.0		
MACHINE FACTOR, PERCENT			98.6			98.2			104.0			101.6		
MACHINE INDEX, PERCENT			103.3			102.9			97.7			95.7		

*See Table II for Notes A and B.
CMaximum speed at which this roll could be corrugated with minimum tension was 425 f.p.m.

TABLE XXIV

SUMMARY OF TEST RESULTS FOR MACHINE W

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
W-1	4- 9-68	549	25.7	10.9	10.0	10.4	45.6	37.2	42.2	32.8	31.6	32.3	1.5	1.563
W-2	5- 6-68	550	26.3	10.9	9.5	10.3	47.4	40.2	43.2	36.2	33.6	35.2	1.0	1.546
W-3	5-13-68	551	26.3	10.3	9.8	10.0	51.6	49.2	50.4	37.4	35.6	36.5	1.5	1.553
W-4	5-20-68	552	26.6	10.9	10.2	10.6	43.2	36.0	40.4	34.0	32.6	33.2	1.5	1.557
CURRENT MACHINE AVERAGE			26.2			10.3			44.0			34.3		1.554
CUMULATIVE MACHINE AVERAGE			26.4			10.3			47.3			36.1		
MACHINE FACTOR, PERCENT			99.2			100.0			93.0			95.0		
MACHINE INDEX, PERCENT			96.7			99.0			102.3			104.2		

TABLE XXV

SUMMARY OF TEST RESULTS FOR MACHINE X

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

X-1	4-24-68	308	26.5	9.1	8.9	9.0	49.2	41.4	45.5	36.4	33.8	35.2	1.5	1.571
X-2	5- 4-68	309	26.5	9.4	9.0	9.2	48.0	46.2	46.9	35.0	32.8	34.3	1.5	1.566
X-3	5-21-68	310	27.3	9.9	9.1	9.5	45.0	39.6	42.4	34.6	32.0	33.3	1.5	1.569
X-4	6- 1-68	311	27.4	10.0	9.5	9.8	46.8	42.6	44.4	33.4	32.0	32.8	1.5	1.570
CURRENT MACHINE AVERAGE			26.9			9.4			44.8			33.9		1.569
CUMULATIVE MACHINE AVERAGE			26.6			9.7			41.2			31.4		
MACHINE FACTOR, PERCENT			101.1			96.9			108.7			108.0		
MACHINE INDEX, PERCENT			99.3			90.4			104.2			103.0		

*See Table II for Notes A and B.

TABLE XXVI

SUMMARY OF TEST RESULTS FOR MACHINE Y

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
Y-1	4-15-68	1899	28.1	11.7	10.8	11.4	46.8	42.0	45.1	32.0	30.2	31.0	NOTE C	1.550
Y-2	4-24-68	1900	27.6	11.0	10.3	10.6	49.2	41.4	44.9	32.6	29.0	30.7	NOTE D	1.543
Y-3	5-20-68	1907	27.4	11.2	10.0	10.8	47.4	41.4	43.6	34.6	28.6	32.1	MIN.	1.555
Y-4	5-20-68	1908	27.9	10.9	10.3	10.7	44.4	37.8	42.1	32.6	29.0	31.2	NOTE E	1.542
CURRENT MACHINE AVERAGE			27.8			10.9			43.9			31.2		1.547
CUMULATIVE MACHINE AVERAGE			27.0			10.8			42.7			29.6		
MACHINE FACTOR, PERCENT			103.0			100.9			102.8			105.4		
MACHINE INDEX, PERCENT			102.6			104.8			102.1			94.8		

TABLE XXVII

SUMMARY OF TEST RESULTS FOR MACHINE Z

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

Z-1	4-25-68	8	26.6	10.9	10.1	10.6	46.8	43.2	44.9	34.0	32.6	33.5	1.5	1.557
Z-2	6- 5-68	10	26.1	10.5	9.8	10.1	45.6	41.4	43.7	34.6	31.8	33.2	1.5	1.558
CURRENT MACHINE AVERAGE			26.4			10.4			44.3			33.4		1.557
CUMULATIVE MACHINE AVERAGE			26.5			10.0			43.2			32.4		
MACHINE FACTOR, PERCENT			99.6			104.0			102.5			103.1		
MACHINE INDEX, PERCENT			97.4			100.0			103.0			101.5		

*See Table II for Notes A and B.

C Maximum speed at which this roll could be corrugated with minimum tension was 350 f.p.m.

D Maximum speed at which this roll could be corrugated with minimum tension was 300 f.p.m.

E Maximum speed at which this roll could be corrugated with minimum tension was 400 f.p.m.

TABLE XXVIII

SUMMARY OF TEST RESULTS FOR MACHINE AA

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
AA-1	4- 8-68	682	26.4	11.9	11.0	11.4	43.2	38.4	40.7	33.6	31.0	32.2	MIN.	1.550
AA-2	5-12-68	959	26.1	10.7	10.0	10.2	45.6	43.2	44.5	35.2	32.2	33.0	MIN.	1.546
AA-3	5-17-68	1419	26.2	10.5	10.0	10.2	48.0	43.8	45.6	33.8	32.4	33.2	0.5	1.546
AA-4	6- 1-68	3	25.7	10.7	10.0	10.2	46.2	42.0	43.4	33.2	30.8	32.0	0.5	1.548
CURRENT MACHINE AVERAGE			26.1			10.5			43.6			32.6		1.547
CUMULATIVE MACHINE AVERAGE			26.4			10.2			41.6			33.3		
MACHINE FACTOR, PERCENT			98.9			102.9			104.8			97.9		
MACHINE INDEX, PERCENT			96.3			101.0			101.4			99.1		

TABLE XXIX

SUMMARY OF TEST RESULTS FOR MACHINE BB

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

BB-1	4-28-68	27.0	9.8	9.6	9.7	49.2	42.6	45.8	35.8	33.6	34.7	1.0	1.558
BB-2	4-29-68	26.8	9.8	9.3	9.6	47.4	45.6	46.6	36.6	33.8	35.2	1.0	1.557
BB-3	5-25-68	26.8	9.5	9.1	9.3	50.4	48.0	49.1	36.4	34.2	35.3	1.5	1.567
BB-4	5-26-68	26.6	9.4	9.1	9.2	49.2	45.0	47.8	38.4	35.0	36.3	1.5	1.565
CURRENT MACHINE AVERAGE		26.8			9.4			47.3			35.4		1.561
CUMULATIVE MACHINE AVERAGE		26.8			10.0			47.4			34.7		
MACHINE FACTOR, PERCENT		100.0			94.0			99.8			102.0		
MACHINE INDEX, PERCENT		98.9			90.4			110.0			107.6		

*See Table II for Notes A and B.

TABLE XXX

SUMMARY OF TEST RESULTS FOR MACHINE CC

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
CC-1	3-23-68	99	26.8	11.8	10.9	11.4	43.8	39.6	42.4	35.0	31.0	32.7	MIN.	1.550
CC-2	4-25-68	100	27.2	11.7	10.7	11.2	47.4	43.2	44.6	34.0	31.2	32.8	MIN.	1.549
CURRENT MACHINE AVERAGE			27.0			11.3			43.5			32.8		1.549
CUMULATIVE MACHINE AVERAGE			26.8			10.7			40.6			32.8		
MACHINE FACTOR, PERCENT			100.7			105.6			107.1			100.0		
MACHINE INDEX, PERCENT			99.6			108.6			101.2			99.7		

TABLE XXXI

SUMMARY OF TEST RESULTS FOR MACHINE DD

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
DD-1	5-14-68	133950	27.1	11.5	10.8	11.1	42.6	37.2	40.1	34.0	32.0	32.7	0.5	1.555
CURRENT MACHINE AVERAGE			27.1			11.1			40.1			32.7		1.555
CUMULATIVE MACHINE AVERAGE			27.5			10.9			42.8			33.0		
MACHINE FACTOR, PERCENT			98.5			101.8			93.7			99.1		
MACHINE INDEX, PERCENT			100.0			106.7			93.2			99.4		

*See Table II for Notes A and B.

TABLE XXXII

SUMMARY OF TEST RESULTS FOR MACHINE EE

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
EE-1	4-12-68	6051	27.0	11.2	10.5	10.9	50.4	46.2	48.5	36.2	34.8	35.6	NOTE C	1.546
CURRENT MACHINE AVERAGE			27.0			10.9			48.5			35.6		1.546
CUMULATIVE MACHINE AVERAGE			26.6			10.7			42.6			35.2		
MACHINE FACTOR, PERCENT			101.5			101.9			113.8			101.1		
MACHINE INDEX, PERCENT			99.6			104.8			112.8			108.2		

TABLE XXXIII

SUMMARY OF TEST RESULTS FOR MACHINE FF

MAY AND JUNE, 1968

TYPE OF MEDIUM- SEMICHEMICAL

CODE	DATE MADE	MILL ROLL NO.	BASIS WT., LB./M. SQ. FT.	CALIPER, PT. MAX.	CALIPER, PT. MIN.	CALIPER, PT. AV.	CONCORA FLAT CRUSH, P.S.I. MAX.	CONCORA FLAT CRUSH, P.S.I. MIN.	CONCORA FLAT CRUSH, P.S.I. AV.	SINGLE-FACE FLAT CRUSH, P.S.I. MAX.	SINGLE-FACE FLAT CRUSH, P.S.I. MIN.	SINGLE-FACE FLAT CRUSH, P.S.I. AV.	RUNNABILITY LB./IN.*A	RUNNABILITY DRAW FACTOR*B
FF-1	6-12-68	11	25.6	11.2	10.6	11.0	46.8	38.4	43.3	33.6	31.6	32.9	MIN.	1.548
FF-2	6-13-68	12	25.9	11.4	10.4	11.0	43.2	37.2	40.1	34.4	31.0	32.9	0.5	1.553
CURRENT MACHINE AVERAGE			25.8			11.0			41.7			32.9		1.550
CUMULATIVE MACHINE AVERAGE			26.0			10.6			43.1			33.9		
MACHINE FACTOR, PERCENT			99.2			103.8			96.8			97.0		
MACHINE INDEX, PERCENT			95.2			105.8			97.0			100.0		

*See Table II for Notes A and B.

CMaximum speed at which this roll could be corrugated with minimum tension was 375 f.p.m.

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.

DISCUSSION OF RESULTS

Shown below from Table I 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.

		Current Machine Averages		F.K.I. Averages	
	Period	Maximum	Minimum	Current	Cumulative
Basis wt., lb./1000 ft.^{2}	Cur.[a]	28.9	25.8	27.0	27.1
	Prev.[b]	28.5	24.9	27.0	27.1
Caliper, pt.	Cur.[a]	11.5	9.3	10.4	10.4
	Prev.[b]	11.4	9.6	10.5	10.4
Concora flat crush, p.s.i.	Cur.[a]	50.6	40.1	43.6	43.0
	Prev.[b]	48.7	38.2	43.0	--
Single-face flat crush, p.s.i.	Cur.[a]	38.7	30.2	33.2	32.9
	Prev.[b]	36.5	28.5	32.1	32.7

The quality data summarized above for the current and previous periods reflect only minor changes for basis weight, caliper, and Concora flat crush. The increase in single-face flat crush, however, appears to be rather large.

The runnability data for the 104 rolls evaluated during the current period and the 111 rolls evaluated during the previous period are summarized on the next page:

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[a] May and June, 1968.

[b] March and April, 1968.

Runnability	Current Period No. of Rolls	Current Period % of Total	Current Period Cum., %	Previous Period No. of Rolls	Previous Period % of Total	Previous Period Cum., %
Less than 600 f.p.m. with minimum tension	9	8.7	100.0	12	10.8	100.0
600 f.p.m. — minimum tension	10	9.6	91.3	16	14.4	89.2
600 f.p.m. — 1/2 lb. per in. tension	18	17.3	81.7	13	11.7	74.8
600 f.p.m. — 1 lb. per in. tension	21	20.2	64.4	11	9.9	63.1
600 f.p.m. — 1-1/2 lb. per in. tension	46	44.2	44.2	59	53.2	53.2

Significant changes in runnability were noted at all levels and, in general, the changes were favorable. For example, the percentage of all rolls runnable at less than 600 f.p.m. with minimum tension decreased, the percentage of all rolls runnable at 600 f.p.m. with minimum tension also decreased, and the percentages of all rolls runnable at 600 f.p.m. with either 0.5 lb./in. or 1.0 lb./in. tension increased. The only unfavorable change was the reduction in the percentage of all rolls runnable at 600 f.p.m. with 1.5 lb./in. tension.

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 XXXIII for Machines A to Z and Machines AA, BB, CC, DD, EE, and FF, respectively.

In Table XXXIV, an effort has been made to compare Institute and mill Concora flat crush test results for each machine for the current period. The comparisons shown in Table XXXIV are somewhat fragmentary because the participating mills are currently changing from submission of Concora flat crush data on conditioned specimens to submission of Concora flat crush data on specimens tested immediately after fluting. It is anticipated that more meaningful comparisons

TABLE XXXIV

INSTITUTE AND MILL CONCORA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR MAY AND JUNE, 1968

Machine A

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
A-1	769	4-17-68	40.8	36.1	--
A-2	772	5-14-68	47.0	44.6	-2.4
A-3	773	5-24-68	39.4	36.9	-2.5
A-4	774	6-13-68	42.2	40.6	-1.6
Current machine av.			42.4		

Machine D

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
D-1	6461	4-24-68	41.9	39.2	-2.7
D-2	4263	5-15-68	43.7	36.4	-7.3
D-3	1932	6-16-68	43.2	39.2	-4.0
Current machine av.			42.9	38.3	-4.6

Machine E

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
E-1	1388	4-22-68	45.8	34.7	--
E-2	1929	5- 1-68	43.3	35.0	--
E-3	3889	5-29-68	36.1	29.4	--
E-4	4345	6- 4-68	44.2	30.5	--
Current machine av.			42.4		

Machine F

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
F-1	K-4	3-27-68	43.6	34.1	--
F-2	K-5	4- 2-68	45.7	39.2	-6.5
F-3	K-6	4-17-68	41.6	36.5	--
F-4	K-7	4-24-68	39.1	34.9	--
Current machine av.			42.5		

Machine G

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
G-1	459	4- 2-68	46.1	48.0	+1.9
G-2	2428	4-10-68	48.5	49.4	+0.9
Current machine av.			47.3	48.7	+1.4

Machine H

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
H-1	196	3-19-68	42.2	37.6	--
H-2	197	4-17-68	41.4	34.6	--
H-3	198	4-22-68	45.2	36.4	--
H-4	201	5- 8-68	42.1	34.2	--
Current machine av.			42.7		

Machine I

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
I-1	308	4-24-68	42.4	32.3	--
I-2	309	5- 4-68	44.9	34.9	--
I-3	310	5-21-68	44.3	38.8	--
I-4	311	6- 3-68	43.1	36.6	--
Current machine av.			43.7		

Machine J

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
J-1	808	4-26-68	44.8	36.6	--
J-2	809	4-29-68	46.0	36.4	--
J-3	810	5-31-68	46.1	40.2	--
Current machine av.			45.6		

Machine K

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
K-1	--	4-28-68	49.1	49.2	+0.1
K-2	--	4-29-68	49.9	49.4	-0.5
K-3	--	5-24-68	52.8	49.8	-3.0
K-4	--	5-25-68	50.6	48.8	-1.8
Current machine av.			50.6	49.3	-1.3

Machine L

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
L-1	404	4-11-68	39.7	34.9	--
L-2	405	4-19-68	45.2	43.3	-1.9
L-3	406	5- 9-68	42.8	39.0	-3.8
L-4	407	5-24-68	41.3	39.4	-1.9
Current machine av.			42.2	39.2	

Machine M

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
M-1	7	4-26-68	43.2	36.6	-6.6
M-2	9	5-23-68	46.0	32.6	--
Current machine av.			44.6		

Machine N

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
N-1	641	3-13-68	44.0	44.5	+0.5
N-2	644	4-11-68	41.0	43.1	+2.1
N-3	645	4-18-68	41.9	43.2	+1.3
N-4	646	4-25-68	44.0	43.1	-0.9
Current machine av.			42.7	43.5	+0.8

Machine O

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
O-1	8372	4-24-68	41.5	39.8	-1.7
O-2	5681	5-16-68	39.2	38.5	-0.7
O-3	122	6-16-68	42.5	38.4	-4.1
Current machine av.			41.1	38.9	-2.2

Machine P

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
P-1	5738	5- 9-68	40.7	42.4	+1.7
P-2	5884	5-14-68	42.0	45.4	+3.4
Current machine av.			41.4	43.9	+2.5

Machine Q

Code	Mill Roll No.	Date Made	Concora Flat Crush, p.s.i. Institute	Mill	Difference[a]
Q-1	679	3-22-68	49.2	42.8	--
Q-2	680	4- 4-68	48.4	40.1	--
Q-3	681	4-17-68	48.2	38.0	--
Q-4	682	5- 8-68	47.5	38.2	--
Current machine av.			48.3		

[a] See end of table for footnote.

TABLE XXXIV (Continued)

INSTITUTE AND MILL CONCORA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR MAY AND JUNE, 1968

Machine R						Machine S						Machine T					
			Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.						Concora Flat Crush, p.s.i.		
Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]	Code	Mill Roll No.	Date Made	Institute	Mill	Difference[a]
R-1	199	4-23-68	42.5	33.6	--	S-1	504	4-11-68	43.0	36.1	--	T-1	173	4-15-68	38.3	36.8	--
R-2	200	4-30-68	46.7	37.7	--	S-2	505	4-24-68	43.8	38.5	-5.3	T-2	174	4-29-68	39.2	35.2	--
R-3	202	5- 9-68	43.4	32.2	--	S-3	506	5-10-68	38.9	37.0	-1.9	T-3	175	5- 3-68	41.3	35.4	--
R-4	204	5-23-68	43.6	33.6	--	S-4	507	5-24-68	40.4	34.0	--	T-4	176	5-23-68	42.5	34.4	--
Current machine av.			44.0			Current machine av.			41.5			Current machine av.			40.3		
Machine U						Machine V						Machine W					
U-1	--	4-28-68	44.4	43.8	-0.6	V-1	1541	4-22-68	44.0	35.0	--	W-1	549	4- 9-68	42.2	34.2	--
U-2	--	4-29-68	42.8	44.3	+1.5	V-2	2214	5- 1-68	39.2	32.0	--	W-2	550	5- 6-68	43.2	36.7	--
U-3	--	5-24-68	43.4	46.6	+3.2	V-3	4354	5-29-68	42.6	34.4	--	W-3	551	5-13-68	50.4	36.6	--
U-4	--	5-25-68	42.2	43.6	+1.4	V-4	4809	6- 4-68	42.4	34.8	--	W-4	552	5-20-68	40.4	36.2	--
Current machine av.			43.2	44.6	+1.4	Current machine av.			42.0			Current machine av.			44.0		
Machine X						Machine Y						Machine Z					
X-1	308	4-24-68	45.5	37.6	--	Y-1	1899	4-15-68	45.1	33.4	--	Z-1	8	4-25-68	44.9	43.8	-1.1
X-2	309	5- 4-68	46.9	37.6	--	Y-2	1900	4-24-68	44.9	27.6	--	Z-2	10	6- 5-68	43.7	30.6	--
X-3	310	5-21-68	42.4	36.7	-5.7	Y-3	1907	5-20-68	43.6	29.5	--						
X-4	311	6- 1-68	44.4	34.6	-9.8	Y-4	1908	5-20-68	42.1	32.4	--						
Current machine av.			44.8			Current machine av.			43.9			Current machine av.			44.3		
Machine AA						Machine BB						Machine CC					
AA-1	682	4- 8-68	40.7	40.0	-0.7	BB-1	--	4-28-68	45.8	45.0	-0.8	CC-1	99	3-23-68	42.4	37.3	--
AA-2	959	5-12-68	44.5	45.0	+0.5	BB-2	--	4-29-68	46.6	44.8	-1.8	CC-2	100	4-25-68	44.6	37.8	--
AA-3	1419	5-17-68	45.6	46.7	+1.1	BB-3	--	5-25-68	49.1	48.0	-1.1						
AA-4	3	6- 1-68	43.4	45.0	+1.6	BB-4	--	5-26-68	47.8	49.7	+1.9						
Current machine av.			43.6	44.2	+0.6	Current machine av.			47.3	46.9	-0.4	Current machine av.			43.5		
Machine DD						Machine EE						Machine FF					
DD-1	133950	5-14-68	40.1	No data		EE-1	6051	4-12-68	48.5	43.1	-5.4	FF-1	11	6-12-68	43.3	39.7	-3.6
												FF-2	12	6-13-68	40.1	36.8	-3.3
Current machine av.			40.1			Current machine av.			48.5	43.1	-5.4	Current machine av.			41.7	38.2	-3.5

[a] No difference is given because mill data were obtained on conditioned specimens and Institute data on unconditioned specimens.

will be available for future reports as more mills complete this changeover. The inclusion of these comparisons is made possible by the fact that interested participants submit their Concora flat crush test 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. Shown in Table XXXIV for each machine are (1) the Institute and mill Concora averages for each roll evaluated during the current period, (2) the difference between each roll average based on Institute data and the corresponding average based on mill data, (3) grand averages[a] of Institute and mill data obtained on all rolls included in the comparison, and (4) the difference between these grand averages.[a]

THE INSTITUTE OF PAPER CHEMISTRY

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[a] Current machine averages.