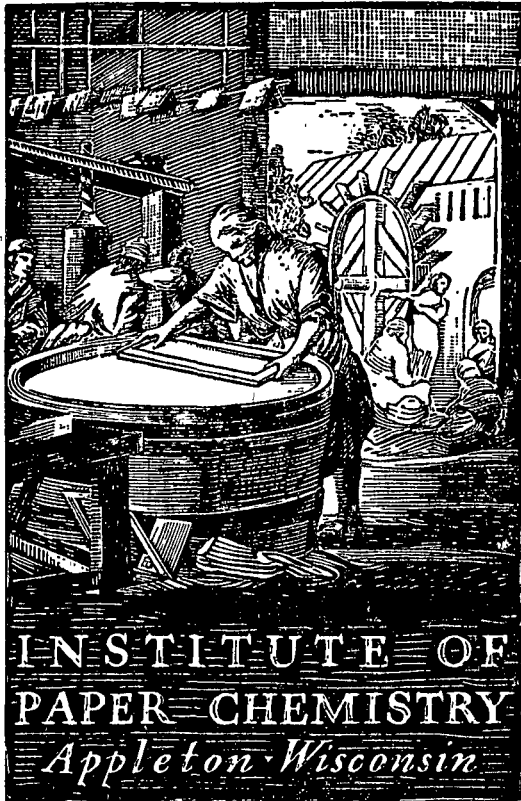


BASE-LINE
(MAY-JUNE, 1970)



CONTINUOUS EVALUATION OF
CORRUGATING MEDIUM
(Data for May and June, 1970)

Project 2694-2

Report Twenty

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

July 24, 1970

BASE-LINE
(MAY-JUNE, 1970)

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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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.	27.9	25.4	26.6	26.8
	Prev.	27.8	25.0	26.8	26.8
Caliper, pt.	Cur.	11.6	9.2	10.2	10.2
	Prev.	11.7	8.8	10.0	10.3
Concora flat crush, p.s.i.	Cur.	52.9	31.9	42.0	42.3
	Prev.	49.5	34.8	41.8	42.4
Single-face flat crush, p.s.i.	Cur.	38.4	24.2	31.4	31.6
	Prev.	37.0	26.2	31.0	31.7

B. Summary of Runnability Data

Runnability		Current Period			Previous Period		
Speed, f.p.m.	Tension, lb./in.	No. of Rolls	% of Total	Cum., %	No. of Rolls	% of Total	Cum., %
<600	Min.	4	3.7	100.0	4	4.0	100.0
600	Min.	13	11.9	96.3	15	15.0	96.0
600	1/2	19	17.4	84.4	12	12.0	81.0
600	1	15	13.8	67.0	18	18.0	69.0
600	1-1/2	58	53.2	53.2	51	51.0	51.0

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

Physical Tests:

Basis weight: Decreased from 26.8 to 26.6 lb./M ft.²
 Caliper: Increased from 10.0 to 10.2 pt.
 Concora flat crush: Increased from 41.8 to 42.0 p.s.i.
 Single-face flat crush: Increased from 31.0 to 31.4 p.s.i.

Runnability:

<600 f.p.m. at minimum tension: Decreased from 4.0 to 3.7%.
 600 f.p.m. at minimum tension: Decreased from 15.0 to 11.9%.
 600 f.p.m. at 1/2 lb./in. tension: Increased from 12.0 to 17.4%.
 600 f.p.m. at 1 lb./in. tension: Decreased from 18.0 to 13.8%.
 600 f.p.m. at 1-1/2 lb./in. tension: Increased from 51.0 to 53.2%.

Comment: The current runnability compares favorably with that of the previous report.

PART III. CONCORRA CALIBRATION DATA

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

Range, %	Current Period		Previous Period	
	No. of Machines	% of Total	No. of Machines	% of Total
<u>+ 1.0</u>	3	13.0	5	20.0
<u>+ 2.5</u>	8	34.8	11	44.0
<u>+ 5.0</u>	16	69.6	17	68.0
<u>+10.0</u>	22	95.7	24	96.0
<u>+15.0</u>	23	100.0 ^a	25	100.0 ^b

B. Significance of Calibration Data

The current level of agreement between Institute and mill Concorra flat crush data is slightly lower than the previous period.

^aMaximum percentage difference was -12.4.

^bMaximum percentage difference was -10.1.

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 May and June, 1970, on 110 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. The reader's attention is directed to the fact that the current base-line report is the fourteenth 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./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.

SUMMARY OF CURRENT MACHINE AVERAGES
MAY AND JUNE, 1970

MILL CODE	NO. OF ROLLS	TYPE OF MEDIUM	BASIS LB. WEIGHT	CALIPER, POINTS	CONCORDA FLAT CRUSH, P.S.I.	SINGLE-FACE FLAT CRUSH, P.S.I.
A	4	SEMICHEMICAL	26.1	10.2	40.8	30.9
B	4	SEMICHEMICAL	26.3	10.5	37.3	27.6
C	4	SEMICHEMICAL	26.3	11.2	38.3	26.7
D	1	SEMICHEMICAL	26.7	9.4	40.7	29.9
E	4	SEMICHEMICAL	26.4	9.8	40.5	29.0
F	4	SEMICHEMICAL	25.6	9.7	48.2	36.3
G	2	SEMICHEMICAL	25.6	10.2	41.0	31.1
H	6	SEMICHEMICAL	27.4	9.2	43.9	34.0
I	4	SEMICHEMICAL	26.3	9.5	38.2	29.4
J	4	SEMICHEMICAL	27.3	10.2	41.2	31.0
K	4	SEMICHEMICAL	26.6	10.0	45.7	35.5
L	2	SEMICHEMICAL	27.9	11.6	42.2	32.4
M	3	SEMICHEMICAL	26.7	9.7	43.0	31.1
N	2	SEMICHEMICAL	26.4	10.2	47.4	34.4
O	6	SEMICHEMICAL	26.3	10.4	39.2	30.0
P	4	SEMICHEMICAL	26.3	9.7	46.7	34.4
Q	4	SEMICHEMICAL	26.4	10.0	43.6	33.4
R	2	SEMICHEMICAL	26.4	9.6	52.9	38.4
S	5	SEMICHEMICAL	27.1	9.7	42.1	30.4
T	6	SEMICHEMICAL	26.9	9.3	43.5	33.2
U	4	SEMICHEMICAL	26.6	10.2	39.6	30.2
V	2	SEMICHEMICAL	25.4	10.0	46.2	36.1
W	3	SEMICHEMICAL	26.6	10.1	40.1	29.8
X	2	SEMICHEMICAL	27.6	11.2	42.5	33.0
Y	4	SEMICHEMICAL	27.5	10.5	42.9	30.8
Z	4	SEMICHEMICAL	27.0	11.0	39.2	28.4
AA	4	SEMICHEMICAL	26.8	10.2	45.3	32.9
BB	2	SEMICHEMICAL	25.8	10.1	40.8	32.2
CC	4	SEMICHEMICAL	27.4	11.0	37.6	28.4
DD	4	SEMICHEMICAL	27.3	10.8	39.3	29.2
EE	2	SEMICHEMICAL	26.2	9.7	31.9	24.2
TOTAL	110					
			26.6	10.2	42.0	31.4
			26.8	10.2	42.3	31.6
			99.2	100.0	99.3	99.4

CURRENT F.K.I. AVERAGE
CUMULATIVE F.K.I. AVERAGE
F.K.I. INDEX, PERCENT

TABLE I

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.

SUMMARY OF TEST RESULTS FOR MACHINE A
MAY AND JUNE, 1970

TABLE II

TYPE OF MEDIUM - SEMICHEMICAL

CODE	MADE	MILL	BASIS WT., LB./M.	MAX. MIN. AV.	CONCORA FLAT CRUSH, P.S.I.	MAX. MIN. AV.	SINGLE-FACE FLAT CRUSH, P.S.I.	MAX. MIN. AV.	LB./IN.*A DRAW	FACTOR*8	RUNNABILITY
A-1	4-4-70	826	26.6	10.8 9.2	44.4 37.8	41.2	33.2 29.4	31.1	1.5	1.564	
A-2	4-20-70	827	26.7	12.0 10.0 10.5	45.6 42.0	43.3	33.2 30.6	32.2	1.5	1.565	
A-3	5-10-70	828	25.2	10.9 10.0 10.4	41.4 37.8	40.0	31.6 29.0	30.4	1.5	1.565	
A-4	5-21-70	829	26.0	10.8 10.0 10.2	44.4 35.4	38.5	30.8 29.0	29.8	1.5	1.567	
			CURRENT MACHINE AVERAGE	26.1	10.2	40.8	30.9			1.565	
			CUMULATIVE MACHINE AVERAGE	26.5	10.0	43.2	32.4				
			MACHINE FACTOR, PERCENT	98.5	102.0	94.4	95.4				
			MACHINE INDEX, PERCENT	97.4	100.0	96.4	97.8				

^AMaximum tension at 600 f.p.m.
^B600 f.p.m. minimum tension.

SUMMARY OF TEST RESULTS FOR MACHINE B
MAY AND JUNE, 1970

TABLE III

TYPE OF MEDIUM - SEMICHEMICAL

CODE	MADE	MILL	BASIS WT., LB./M.	MAX. MIN. AV.	CONCORA FLAT CRUSH, P.S.I.	MAX. MIN. AV.	SINGLE-FACE FLAT CRUSH, P.S.I.	MAX. MIN. AV.	LB./IN.*A DRAW	FACTOR*8	RUNNABILITY
B-1	4-5-70	9	27.2	12.0 11.0 11.5	40.8 36.0	38.5	28.8 27.0	27.9	0.5	1.558	
B-2	4-20-70	11	26.8	10.2 9.0 9.9	40.8 38.4	39.5	28.6 27.0	27.6	1.0	1.564	
B-3	4-29-70	13	25.7	11.0 10.0 10.5	38.4 34.2	36.4	30.6 27.6	28.9	1.0	1.559	
B-4	5-14-70	15	25.6	10.9 9.6 10.2	36.0 34.2	34.9	27.2 25.6	26.2	0.5	1.558	
			CURRENT MACHINE AVERAGE	26.3	10.5	37.3	27.6			1.560	
			CUMULATIVE MACHINE AVERAGE	26.6	10.2	39.4	29.8				
			MACHINE FACTOR, PERCENT	98.9	102.9	94.7	92.6				
			MACHINE INDEX, PERCENT	98.1	102.9	88.2	87.3				

TABLE IV

SUMMARY OF TEST RESULTS FOR MACHINE C
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
C-1	4-11-70	5612	26.3	12.0	11.1	11.6	42.6	36.0	38.6	26.2	24.2	25.6	1.5	1.575
C-2		3483	26.8	11.1	10.8	11.0	42.0	36.6	39.2	30.4	28.0	29.3	1.5	1.574
C-3	6- 3-70	1412	26.0	11.9	10.8	11.1	39.6	34.8	37.1	25.8	24.2	25.1	1.5	1.570
C-4	6- 3-70	1422	26.1	11.2	10.5	10.9	41.4	34.8	38.2	27.8	25.6	26.9	1.0	1.567
CURRENT MACHINE AVERAGE			26.3	11.2			38.3			26.7			1.572	
CUMULATIVE MACHINE AVERAGE			26.6	11.6			40.0			27.6				
MACHINE FACTOR, PERCENT			98.9	96.6			95.8			96.7				
MACHINE INDEX, PERCENT			98.1	109.8			90.5			84.5				

TABLE V

SUMMARY OF TEST RESULTS FOR MACHINE D
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
D-1	4- 6-70	676	26.7	9.9	9.0	9.4	43.2	39.0	40.7	31.4	28.4	29.9	1.5	1.565
CURRENT MACHINE AVERAGE			26.7	9.4			40.7			29.9			1.565	
CUMULATIVE MACHINE AVERAGE			27.4	10.1			43.9			33.5				
MACHINE FACTOR, PERCENT			97.4	93.1			92.7			89.2				
MACHINE INDEX, PERCENT			99.6	92.2			96.2			94.6				

* See Table II for Notes A and B.

TABLE VI

SUMMARY OF TEST RESULTS FOR MACHINE E
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
E-1	4-22-70	356	26.3	10.1	10.0	10.0	41.4	39.0	40.0	28.8	26.6	28.2	1.5	1.571
E-2	5- 3-70	357	26.0	9.9	9.0	9.2	46.2	39.6	43.1	29.8	28.2	29.0	1.5	1.580
E-3	5-18-70	358	27.3	10.0	9.8	10.0	45.0	39.0	41.4	33.2	31.4	32.0	1.5	1.569
E-4	6- 2-70	359	26.2	10.0	9.9	10.0	41.4	33.0	37.4	28.0	25.6	27.0	1.5	1.576
CURRENT MACHINE AVERAGE			26.4	9.8			40.5			29.0			1.574	
CUMULATIVE MACHINE AVERAGE			26.6	9.7			40.1			30.0				
MACHINE FACTOR, PERCENT			99.2	101.0			101.0			96.7				
MACHINE INDEX, PERCENT			98.5	96.1			95.7			91.8				

TABLE VII

SUMMARY OF TEST RESULTS FOR MACHINE F
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
F-1	4- 5-70	597	25.2	10.6	8.9	9.6	52.2	45.6	48.7	37.2	34.0	35.6	1.5	1.563
F-2	4-15-70	598	25.4	10.0	8.9	9.4	50.4	46.8	48.2	38.6	34.8	36.4	0.5	1.558
F-3	5- 8-70	599	26.0	10.9	9.0	9.9	49.2	47.4	48.2	38.8	35.4	36.6	1.0	1.560
F-4	6-10-70	600	25.8	10.1	9.9	10.0	49.8	44.4	47.5	37.4	35.6	36.5	1.5	1.563
CURRENT MACHINE AVERAGE			25.6	9.7			48.2			36.3			1.561	
CUMULATIVE MACHINE AVERAGE			25.8	9.9			45.6			34.5				
MACHINE FACTOR, PERCENT			99.2	98.0			105.7			105.2				
MACHINE INDEX, PERCENT			95.5	95.1			113.9			114.9				

* See Table II for Notes A and B.

TABLE VIII

SUMMARY OF TEST RESULTS FOR MACHINE G

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
G-1	4- 7-70	225	25.7	10.8	10.0	10.1	44.4	37.8	41.4	33.0	30.0	31.2	1.0	1.571
G-2	4- 7-70	226	25.6	10.9	10.0	10.2	42.0	39.0	40.7	32.4	29.6	31.0	1.5	1.567
CURRENT MACHINE AVERAGE			25.6	10.2			41.0			31.1			1.569	
CUMULATIVE MACHINE AVERAGE			26.4	9.9			42.2			32.8				
MACHINE FACTOR, PERCENT			97.0	103.0			97.2			94.8				
MACHINE INDEX, PERCENT			95.5	100.0			96.9			98.4				

TABLE IX

SUMMARY OF TEST RESULTS FOR MACHINE H

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
H-1	3- 2-70	282	28.0	10.1	9.8	10.0	51.0	42.0	46.0	37.4	35.2	36.2	1.5	1.569
H-2	3-29-70	285	27.1	9.3	9.0	9.1	48.6	37.2	43.9	32.8	30.8	32.0	1.5	1.575
H-3	4-21-70	286	26.8	9.2	8.9	9.0	48.6	36.6	44.3	35.8	33.8	34.5	0.5	1.569
H-4	4-22-70	287	28.0	9.9	9.0	9.3	48.0	41.4	45.2	36.0	33.6	34.7	1.5	1.576
H-5	5-18-70	291	27.2	9.0	8.3	8.9	48.0	40.2	43.7	35.4	33.4	34.2	1.0	1.565
H-6	5-30-70	293	27.0	9.1	8.2	8.9	42.6	37.2	40.1	33.4	31.0	32.4	1.5	1.572
CURRENT MACHINE AVERAGE			27.4	9.2			43.9			34.0			1.571	
CUMULATIVE MACHINE AVERAGE			27.5	9.5			44.1			33.6				
MACHINE FACTOR, PERCENT			99.6	96.8			99.5			101.2				
MACHINE INDEX, PERCENT			102.2	90.2			103.8			107.6				

* See Table II for Notes A and B.

TABLE X

SUMMARY OF TEST RESULTS FOR MACHINE I
MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
I-1	4-22-70	49	26.3	9.9	9.0	9.4	40.2	37.8	38.6	31.0	28.8	29.7	NOTE C	1.547
I-2	4-23-70	50	26.3	9.8	9.1	9.3	45.6	38.4	41.0	34.6	31.4	33.2	0.5	1.562
I-3		51	26.0	10.0	9.8	10.0	39.6	34.8	37.8	30.2	27.0	28.7	MIN.	1.571
I-4		52	26.5	9.5	9.0	9.2	39.0	31.8	35.6	27.2	24.2	26.0	0.5	1.568
CURRENT MACHINE AVERAGE			26.3	9.5			38.2			29.4			1.562	
CUMULATIVE MACHINE AVERAGE			26.0	10.4			40.5			31.0				
MACHINE FACTOR, PERCENT			101.2	91.3			94.3			94.8				
MACHINE INDEX, PERCENT			98.1	93.1			90.3			93.0				

* See Table II for Notes A and B.

C Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XI

SUMMARY OF TEST RESULTS FOR MACHINE J
MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
J-1	4- 1-70	312-1	28.7	11.0	10.2	10.6	47.4	44.4	45.7	35.2	34.4	35.0	1.0	1.563
J-2	4- 4-70	370-1	26.0	10.1	9.0	9.5	43.2	38.4	40.8	31.0	29.4	30.3	1.5	1.568
J-3	5- 2-70	318-2	28.7	11.1	10.1	10.8	41.4	36.6	39.6	30.2	29.2	29.8	1.5	1.570
J-4	5- 8-70	346-1	25.7	10.4	9.2	10.0	39.6	36.6	38.6	30.6	28.4	28.9	1.5	1.573
CURRENT MACHINE AVERAGE			27.3	10.2			41.2			31.0			1.569	
CUMULATIVE MACHINE AVERAGE			27.2	10.8			39.0			28.5				
MACHINE FACTOR, PERCENT			100.4	94.4			105.6			108.8				
MACHINE INDEX, PERCENT			101.9	100.0			97.4			98.1				

TABLE XII

SUMMARY OF TEST RESULTS FOR MACHINE K

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
K-1	4-17-70	7274	26.3	10.3	9.9	10.0	45.6	37.8	42.7	34.4	31.6	32.7	MIN.	1.556
K-2	4-22-70	7412	26.8	10.8	10.1	10.1	49.2	45.6	47.4	35.2	33.8	34.5	MIN.	1.555
K-3	5-10-70	7957	27.6	10.5	9.5	10.0	55.2	40.2	48.8	41.8	38.0	40.8	NOTE C	1.544
K-4	5-10-70	8145	25.6	10.1	9.8	10.0	50.4	42.0	44.0	36.2	30.2	33.9	MIN.	1.565
CURRENT MACHINE AVERAGE			26.6	10.0			45.7			35.5			1.555	
CUMULATIVE MACHINE AVERAGE			26.9	9.8			45.8			34.2				
MACHINE FACTOR, PERCENT			98.9	102.0			99.8			103.8				
MACHINE INDEX, PERCENT			99.2	98.0			108.0			112.3				

* See Table II for Notes A and B.

^CMaximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XIII

SUMMARY OF TEST RESULTS FOR MACHINE L

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
L-1	4- 5-70	233	28.2	12.0	11.1	11.8	49.2	40.8	45.5	35.4	33.6	34.7	0.5	1.559
L-2	4- 8-70	380	27.6	12.0	11.1	11.5	40.2	37.2	38.9	31.6	29.4	30.2	0.5	1.563
CURRENT MACHINE AVERAGE			27.9	11.6			42.2			32.4			1.561	
CUMULATIVE MACHINE AVERAGE			27.5	11.3			39.2			30.1				
MACHINE FACTOR, PERCENT			101.4	102.6			107.6			107.6				
MACHINE INDEX, PERCENT			104.1	113.7			99.8			102.5				

TABLE XIV

SUMMARY OF TEST RESULTS FOR MACHINE M
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*8
M-1	6- 7-70		26.8	10.0	9.1	9.6	44.4	42.0	43.2	32.0	30.8	31.6	1.5	1.573
M-2	6- 8-70		26.7	9.9	9.2	9.7	45.0	37.8	43.0	33.2	29.0	31.1	1.0	1.568
M-3	6-14-70		26.5	10.0	9.3	9.7	45.6	40.8	42.8	32.2	29.0	30.6	1.5	1.573
CURRENT MACHINE AVERAGE			26.7			9.7			43.0			31.1		1.572
CUMULATIVE MACHINE AVERAGE			26.7			9.5			44.6			34.0		
MACHINE FACTOR, PERCENT			100.0			102.1			96.4			91.5		
MACHINE INDEX, PERCENT			99.6			95.1			101.6			98.4		

TABLE XV

SUMMARY OF TEST RESULTS FOR MACHINE N
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*8
N-1	4- 7-70	1	26.8	10.5	10.0	10.2	53.4	46.2	48.8	35.6	34.6	35.0	1.5	1.571
N-2	5-14-70	3	26.0	10.9	10.0	10.3	48.6	43.8	46.1	35.8	33.0	33.8	1.5	1.565
CURRENT MACHINE AVERAGE			26.4			10.2			47.4			34.4		1.568
CUMULATIVE MACHINE AVERAGE			26.5			10.0			47.4			34.6		
MACHINE FACTOR, PERCENT			99.6			102.0			100.0			99.4		
MACHINE INDEX, PERCENT			98.5			100.0			112.0			108.9		

* See Table II for Notes A and B.

TABLE XVI

SUMMARY OF TEST RESULTS FOR MACHINE O

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
O-1	3-27-70	K-4	26.0	12.8	11.2	12.0	48.0	42.0	44.6	33.2	32.8	33.0	1.5	1.564
O-2	3-27-70	K-5	27.7	11.0	10.0	10.4	46.2	40.2	42.7	34.4	32.8	33.5	1.5	1.570
O-3	3-27-70	K-6	25.2	12.0	10.8	11.3	41.4	37.2	39.2	32.4	29.0	30.6	1.5	1.568
O-4	4-16-70		27.4	10.1	9.9	10.0	44.4	40.8	42.8	34.2	31.6	32.5	1.5	1.572
O-5	5- 6-70		26.2	10.0	10.0	10.0	32.4	28.2	30.2	24.8	22.2	23.6	1.5	1.576
O-6	5-21-70		25.2	9.2	8.9	9.0	37.2	33.6	35.4	28.0	26.4	27.1	1.0	1.569
CURRENT MACHINE AVERAGE			26.3	10.4			39.2			30.0			1.570	
CUMULATIVE MACHINE AVERAGE			27.4	9.9			42.9			32.2				
MACHINE FACTOR, PERCENT			96.0	105.0			91.4			93.2				
MACHINE INDEX, PERCENT			98.1	102.0			92.7			94.9				

TABLE XVII

SUMMARY OF TEST RESULTS FOR MACHINE P

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
P-1	4- 1-70	8370	27.1	10.1	9.0	9.8	51.0	46.2	48.7	38.0	33.4	35.3	0.5	1.567
P-2	4- 7-70	8558	25.5	10.0	9.2	9.8	46.8	43.8	45.0	33.6	32.0	32.8	1.5	1.573
P-3	4-17-70	8836	26.8	10.3	9.0	9.8	48.6	43.2	45.7	36.0	34.0	34.9	MIN.	1.557
P-4	4-20-70	8935	25.7	10.0	8.8	9.4	51.6	44.4	47.4	36.0	34.2	34.8	MIN.	1.559
CURRENT MACHINE AVERAGE			26.3	9.7			46.7			34.4			1.564	
CUMULATIVE MACHINE AVERAGE			26.3	9.7			45.2			34.3				
MACHINE FACTOR, PERCENT			100.0	100.0			103.3			100.3				
MACHINE INDEX, PERCENT			98.1	95.1			110.4			108.9				

* See Table II for Notes A and B.

TABLE XVIII

SUMMARY OF TEST RESULTS FOR MACHINE Q

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
Q-1	6- 6-70		26.0	10.1	10.0	10.0	45.6	42.0	43.8	34.8	33.0	33.9	1.5	1.571
Q-2	6- 7-70		25.8	10.1	9.9	10.0	45.6	43.2	44.5	36.4	32.4	34.6	1.5	1.562
Q-3	6-12-70		26.8	10.1	9.8	10.0	44.4	38.4	41.8	33.0	30.4	32.0	1.5	1.569
Q-4	6-13-70		27.1	10.5	9.6	10.0	46.2	43.8	44.5	34.2	31.8	33.3	1.5	1.566
CURRENT MACHINE AVERAGE			26.4			10.0			43.6			33.4		1.567
CUMULATIVE MACHINE AVERAGE			26.7			10.4			45.9			34.6		
MACHINE FACTOR, PERCENT			98.9			96.2			95.0			96.5		
MACHINE INDEX, PERCENT			98.5			98.0			103.1			105.7		

TABLE XIX

SUMMARY OF TEST RESULTS FOR MACHINE R

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR*B
R-1	4- 6-70	729	26.3	9.9	9.1	9.4	55.2	52.2	53.4	38.8	37.6	38.3	1.5	1.571
R-2	4-26-70	730	26.5	10.2	9.2	9.9	55.2	49.8	52.4	39.4	36.0	38.4	1.5	1.574
CURRENT MACHINE AVERAGE			26.4			9.6			52.9			38.4		1.573
CUMULATIVE MACHINE AVERAGE			27.2			10.1			48.1			36.0		
MACHINE FACTOR, PERCENT			97.0			95.0			110.0			106.7		
MACHINE INDEX, PERCENT			98.5			94.1			125.0			121.5		

* See Table II for Notes A and B.

TABLE XX

SUMMARY OF TEST RESULTS FOR MACHINE S

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
S-1	4- 6-70	355	29.1	9.5	8.8	9.1	46.8	36.0	42.0	31.4	29.4	30.2	1.5	1.575
S-2	4-23-70	356	26.7	10.1	10.0	10.0	42.0	37.8	40.3	30.8	27.2	28.8	1.0	1.567
S-3	5- 3-70	357	26.7	10.2	9.8	10.0	45.6	36.0	41.4	30.4	27.2	29.4	1.5	1.577
S-4	5-19-70	358	26.7	10.0	9.3	9.8	45.6	42.6	44.0	33.8	30.8	32.2	1.0	1.568
S-5	6- 1-70	359	26.5	10.0	9.0	9.6	43.8	40.8	42.8	33.0	29.4	31.2	1.5	1.575
CURRENT MACHINE AVERAGE			27.1	9.7			42.1			30.4			1.573	
CUMULATIVE MACHINE AVERAGE			26.6	9.9			41.2			30.2				
MACHINE FACTOR, PERCENT			101.9	98.0			102.2			100.7				
MACHINE INDEX, PERCENT			101.1	95.1			99.5			96.2				

TABLE XXI

SUMMARY OF TEST RESULTS FOR MACHINE T

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
T-1	3- 6-70	283	27.4	9.9	9.0	9.2	48.6	40.8	44.6	36.0	33.6	34.8	1.5	1.578
T-2	3-18-70	284	26.5	9.9	9.0	9.4	50.4	39.6	44.0	33.8	31.0	32.6	1.5	1.572
T-3	4-21-70	288	26.9	9.0	8.8	9.0	45.6	41.4	44.3	36.2	32.2	33.6	1.5	1.568
T-4	4-13-70	289	27.2	10.0	9.1	9.5	46.2	36.0	43.0	33.6	30.8	32.2	1.5	1.576
T-5	5-12-70	290	26.5	9.9	9.0	9.5	43.8	38.4	42.1	34.0	30.6	32.2	1.5	1.568
T-6	5-26-70	292	26.8	9.8	9.0	9.1	45.6	40.2	43.2	35.2	32.6	33.5	0.5	1.560
CURRENT MACHINE AVERAGE			26.9	9.3			43.5			33.2			1.571	
CUMULATIVE MACHINE AVERAGE			27.4	9.4			44.6			33.7				
MACHINE FACTOR, PERCENT			98.2	98.9			97.5			98.5				
MACHINE INDEX, PERCENT			100.4	91.2			102.8			105.1				

* See Table II for Notes A and B.

TABLE XXII

SUMMARY OF TEST RESULTS FOR MACHINE U

MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
U-1	4- 4-70	481-1	25.6	10.0	9.2	9.5	45.6	37.8	40.1	30.6	28.4	29.9	0.5	1.563
U-2	4-10-70	447-3	26.3	10.3	9.9	10.0	41.4	35.4	39.0	30.4	28.0	29.0	1.5	1.567
U-3	4-27-70	445-2	28.3	12.1	11.0	11.2	43.8	39.6	41.9	34.0	32.2	32.8	1.5	1.569
U-4	5- 1-70	446-3	26.3	10.9	10.0	10.2	39.6	34.2	37.2	30.2	28.0	28.9	1.5	1.562
CURRENT MACHINE AVERAGE			26.6	10.2			39.6			30.2			1.565	
CUMULATIVE MACHINE AVERAGE			27.4	10.8			39.6			28.9				
MACHINE FACTOR, PERCENT			97.1	94.4			100.0			104.5				
MACHINE INDEX, PERCENT			99.2	100.0			93.6			95.6				

TABLE XXIII

SUMMARY OF TEST RESULTS FOR MACHINE V

MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
V-1	6-10-70	838	24.9	10.2	9.1	9.7	50.4	44.4	47.2	37.4	34.4	36.0	1.0	1.564
V-2	6-11-70	839	26.0	10.8	10.0	10.3	48.0	42.6	45.1	38.0	35.4	36.2	1.5	1.563
CURRENT MACHINE AVERAGE			25.4	10.0			46.2			36.1			1.564	
CUMULATIVE MACHINE AVERAGE			25.5	10.2			47.7			35.0				
MACHINE FACTOR, PERCENT			99.6	98.0			96.8			103.1				
MACHINE INDEX, PERCENT			94.8	98.0			109.2			114.2				

* See Table II for Notes A and B.

TABLE XXIV

SUMMARY OF TEST RESULTS FOR MACHINE W

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
W-1	3- 4-70	105	26.8	10.8	10.0	10.2	45.0	38.4	41.3	31.4	29.0	29.8	0.5	1.558
W-2	3-12-70	106	26.5	10.3	10.0	10.1	43.2	33.6	38.4	30.6	29.2	29.9	0.5	1.557
W-3	3-25-70	107	26.6	10.3	10.0	10.1	42.6	37.8	40.7	31.6	28.2	29.6	0.5	1.560
CURRENT MACHINE AVERAGE			26.6	10.1			40.1			29.8			1.559	
CUMULATIVE MACHINE AVERAGE			27.0	10.6			44.4			33.2				
MACHINE FACTOR, PERCENT			98.5	95.3			90.3			89.8				
MACHINE INDEX, PERCENT			99.2	99.0			94.8			94.3				

TABLE XXV

SUMMARY OF TEST RESULTS FOR MACHINE X

MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
X-1	4-15-70	166	27.9	12.0	11.1	11.4	46.2	39.6	43.1	34.2	31.4	32.5	MIN.	1.555
X-2	4-15-70	167	27.4	11.7	11.0	11.1	43.2	39.6	41.9	35.0	32.2	33.6	MIN.	1.559
CURRENT MACHINE AVERAGE			27.6	11.2			42.5			33.0			1.557	
CUMULATIVE MACHINE AVERAGE			26.4	10.7			40.0			30.6				
MACHINE FACTOR, PERCENT			104.5	104.7			106.2			107.8				
MACHINE INDEX, PERCENT			103.0	109.8			100.5			104.4				

* See Table II for Notes A and B.

TABLE XXVI

SUMMARY OF TEST RESULTS FOR MACHINE Y
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
Y-1	4-29-70	2088	28.1	11.2	10.9	11.0	46.8	40.8	44.3	32.4	30.8	31.7	0.5	1.559
Y-2	4-29-70	2095	28.1	11.3	11.0	11.1	48.0	42.0	44.9	33.0	31.8	32.4	0.5	1.561
Y-3	5-24-70	2096	27.0	10.1	10.0	10.0	44.4	37.2	41.4	30.6	29.8	30.2	1.0	1.559
Y-4	5-30-70	2103	26.8	10.3	10.0	10.0	44.4	39.0	40.9	29.6	28.6	29.1	0.5	1.557
CURRENT MACHINE AVERAGE			27.5	10.5			42.9			30.8			1.559	
CUMULATIVE MACHINE AVERAGE			27.0	10.5			41.0			29.5				
MACHINE FACTOR, PERCENT			101.8	100.0			104.6			104.4				
MACHINE INDEX, PERCENT			102.6	102.9			101.4			97.5				

TABLE XXVII

SUMMARY OF TEST RESULTS FOR MACHINE Z
MAY AND JUNE, 1970

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.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	DRAW FACTOR#B
Z-1	3-27-70	240	27.4	11.8	10.8	11.2	41.4	34.2	36.7	29.0	26.4	27.7	MIN.	1.554
Z-2	4- 2-70	241	26.7	11.3	10.9	11.1	44.4	34.2	39.4	29.0	26.0	27.5	NOTE C	1.557
Z-3	4-11-70	242	26.6	11.1	10.0	10.8	45.0	42.0	43.1	33.0	28.6	30.0	MIN.	1.566
Z-4	4-16-70	243	27.1	11.8	10.7	11.1	39.6	32.4	37.7	30.4	27.0	28.6	MIN.	1.566
CURRENT MACHINE AVERAGE			27.0	11.0			39.2			28.4			1.561	
CUMULATIVE MACHINE AVERAGE			27.6	11.0			40.1			29.7				
MACHINE FACTOR, PERCENT			97.8	100.0			97.8			95.6				
MACHINE INDEX, PERCENT			100.7	107.8			92.7			89.9				

* See Table II for Notes A and B.

C Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XXVIII

SUMMARY OF TEST RESULTS FOR MACHINE AA
MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
AA-1	6- 7-70		27.1	10.9	10.0	10.4	45.6	40.2	42.6	32.6	29.4	30.8	1.5	1.569
AA-2	6- 8-70		26.8	10.8	10.0	10.3	49.2	39.6	44.0	33.0	31.0	31.9	1.5	1.573
AA-3	6-12-70		26.9	10.5	9.9	10.1	51.6	45.6	48.1	36.6	33.8	35.2	1.5	1.574
AA-4	6-13-70		26.5	10.1	9.8	10.0	50.4	43.8	46.4	36.6	32.0	33.6	1.5	1.575
CURRENT MACHINE AVERAGE			26.8	10.2			45.3			32.9			1.573	
CUMULATIVE MACHINE AVERAGE			26.9	10.4			44.4			32.5				
MACHINE FACTOR, PERCENT			99.6	98.1			102.0			101.2				
MACHINE INDEX, PERCENT			100.0	100.0			107.1			104.1				

TABLE XXIX

SUMMARY OF TEST RESULTS FOR MACHINE BB
MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*B
BB-1	4-28-70	7440	25.4	10.2	10.0	10.0	43.8	39.6	41.9	33.2	31.4	32.2	NOTE C	1.558
BB-2	5- 1-70	7496	26.3	10.5	10.0	10.2	42.6	36.0	39.7	33.2	31.6	32.2	1.0	1.575
CURRENT MACHINE AVERAGE			25.8	10.1			40.8			32.2			1.567	
CUMULATIVE MACHINE AVERAGE														
MACHINE FACTOR, PERCENT														
MACHINE INDEX, PERCENT			96.3	99.0			96.4			101.9				

* See Table II for Notes A and B.

^C Maximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XXX

SUMMARY OF TEST RESULTS FOR MACHINE CC

MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*8
CC-1	4- 3-70	10	26.8	11.0	10.1	10.7	37.2	31.8	33.6	27.2	24.2	25.3	MIN.	1.557
CC-2	4-16-70	12	28.3	12.0	11.5	11.8	41.4	37.2	38.6	28.8	26.8	27.7	MIN.	1.551
CC-3	4-29-70	14	26.8	11.1	10.5	10.9	40.2	34.2	37.9	31.8	29.0	30.1	0.5	1.561
CC-4	5-14-70	16	27.9	11.0	10.0	10.7	43.8	36.6	40.3	31.4	29.4	30.4	0.5	1.559
CURRENT MACHINE AVERAGE			27.4	11.0			37.6			28.4			1.557	
CUMULATIVE MACHINE AVERAGE			26.6	10.3			40.5			30.2				
MACHINE FACTOR, PERCENT			103.0	106.8			92.8			94.0				
MACHINE INDEX, PERCENT			102.2	107.8			88.9			89.9				

TABLE XXXI

SUMMARY OF TEST RESULTS FOR MACHINE DD

MAY AND JUNE, 1970

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.	MIN.	AV.	MAX.	MIN.	AV.	MAX.	MIN.	AV.	LB./IN.*A	FACTOR*8
DD-1	4-11-70	5381	27.1	11.0	10.0	10.5	45.0	36.0	40.9	30.6	28.0	29.3	1.0	1.568
DD-2	6- 2-70	371	27.6	11.1	10.5	10.8	40.8	36.6	39.0	30.6	29.0	29.9	1.5	1.573
DD-3	6- 3-70	763	27.5	11.9	10.3	11.0	42.6	36.6	38.9	29.4	25.0	27.8	1.5	1.575
DD-4	6- 3-70	781	27.1	11.2	10.1	10.7	40.2	36.0	38.3	32.2	28.6	29.8	NOTE C	1.562
CURRENT MACHINE AVERAGE			27.3	10.8			39.3			29.2			1.570	
CUMULATIVE MACHINE AVERAGE			26.7	10.5			40.9			29.8				
MACHINE FACTOR, PERCENT			102.2	102.8			96.1			98.0				
MACHINE INDEX, PERCENT			101.9	105.9			92.9			92.4				

* See Table II for Notes A and B.

^C Due to damaged condition of roll when received tension could not be obtained.

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 110 rolls evaluated during the current period and the 100 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 percent 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

Machine Code	No. of Rolls Compared	Concora Flat Crush, p.s.i.			Av. Diff., % ^c	
		I.P.C. Av. ^a	Mill Av. ^a	Av. Diff. ^b	Current	Previous
A	4	40.8	38.3 ^d	-2.5	-6.1	-8.0
B	0	37.3	31.6 ^d	--	--	--
C	2	37.8	36.6 ^e	-1.2	-3.2	-2.6
D	0	40.7	-- ^e	--	--	-2.2
E	4	40.5	39.3 ^d	-1.2	-3.0	-2.8
F	0	48.2	37.0 ^d	--	--	--
G	0	41.0	-- ^e	--	--	--
H	6	43.9	42.0	-1.9	-4.3	-5.8
I	2	39.8	38.6	-1.2	-3.0	-0.3
J	4	41.2	36.1	-5.1	-12.4	-8.2
K	4	45.7	44.6	-1.1	-2.4	-2.8
L	2	42.2	39.8	-2.4	-5.7	-8.9
M	3	43.0	42.9 ^d	-0.1	-0.2	+0.7
N	0	47.4	39.2 ^d	--	--	--
O	6	39.2	41.6	+2.4	+6.1	+3.6
P	4	46.7	44.5	-2.2	-4.7	+1.1
Q	4	43.6	44.6 ^d	+1.0	+2.3	+1.4
R	0	52.9	40.8 ^d	--	--	--
S	5	42.1	41.0	-1.1	-2.6	-6.9
T	6	43.5	42.0	-1.5	-3.4	-2.3
U	4	39.6	38.0 ^d	-1.6	-4.0	-10.1
V	0	46.2	38.1 ^d	--	--	--
W	3	40.1	43.7	+3.6	+9.0	--
X	2	42.5	41.5	-1.0	-2.4	-4.4
Y	4	42.9	42.3	-0.6	-1.4	+7.7
Z	4	39.2	37.0	-2.2	-5.6	-3.1
AA	4	45.3	45.2	-0.1	-0.2	0.0
BB	2	40.8	41.2	+0.4	+1.0	--
CC	0	37.6	32.2 ^d	--	--	--
DD	4	39.3	38.6	-0.7	-1.8	-1.5
EE	2	31.9	35.0	+3.1	+9.7	-2.3

^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.

^dMill data were not obtained on specimens tested immediately after fluting.

^eNo 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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