

CONTINUOUS BASELINE STUDY

Project 1108-13

Report 173

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

October 1, 1961

THE INSTITUTE OF PAPER CHEMISTRY Appleton, Wisconsin

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THE INSTITUTE OF PAPER CHEMISTRY Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

INTRODUCTION

As requested by the Technical Committee of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous baseline study on 42-lb. fourdrinier kraft linerboard are now being prepared by The Institute of Paper Chemistry on a bimonthly basis instead of the previous monthly basis. This new system was initiated on August 1, 1961. Hence, this first report under the new system presents results obtained during the months of August and September.

During this first bimonthly period, 104 sample lots of 42-lb. fourdrinier kraft linerboard representing the production of seventeen mills were evaluated in August and 55 sample lots representing the production of sixteen mills were evaluated in September. The reduction in sample lots noted between August and September is associated with the revision in the study, as recommended by the Technical Committee, whereby the maximum number of sample lots submitted for evaluation by each participant was reduced from eight per month to four per month effective September 1, 1961.

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PRESENTATION AND DISCUSSION OF TEST RESULTS

Each sample lot received for evaluation during August and September was evaluated for basis weight, caliper, bursting strength, and Elmendorf tearing strength. The average strength results for each mill may be seen in Table I and are graphically presented in Fig. 1 to 5° In addition to a comparison of the current mill averages for the various tests, Table I also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. For each test, the current mill average represents the average obtained on all sample lots evaluated during a given period, the current F.K.I. average represents the average of the current mill averages, and the cumulative F.K.I. average represents the average of the current F.K.I. averages for the previous twelve months excluding the current period. The F.K.I. index expressed in per cent is the ratio of the current F.K.I. average to the cumulative F.K.I. average.

In Table II, a tabulation of the number of sample lots submitted by each mill during August and September is shown.

Supplementary to the basis weight data given in Table I, a tabulation is given in Table III of the amount by which the basis weight average for each mill varies from the 42-lb. specification set forth in Rule 41.

Shown below from Table I are the maximum and minimum current mill averages for each test and also the current and cumulative FoKeIs averages:

SUMMARY OF COMPOSITE MILL AVERAGES

Elmendorf Tear, g./sheet In Machine Cross Machine		373 407 317 357 319 359 349 363				332 377 313 346 400	298 347	326 369	331 373	6.86
Bursting Strength, p.s.i. gage		112 109 113	£ † †	1 77	11222		116	113	011	102.7
Caliper, points	August, 1961	4. 6. 4. 4. 4. 4. 4.	_	_	13.1 1.51 1.52	13323 : 24:04:	tted. 12.0	12.5	12.6	99.2
Basis Weight, lb.		43.5 43.5 43.2	samples 43.8 42.6	No samples sucritted. 42.5	4 4 5 6 7 7 7 8 9 7 7 9 7 9 7 9 9 7 9 9 9 9 9 9	65.54 65.54 75.54 75.54 75.54	No samples submitted, 42.5	42.8	43.4	9.86
M11		4 M O C) EA EL CD (エトゥ	ᅜᅜᅜ	ረ ዕፁ ው	T D	Current FKI Average:	Cumulative FKI Average:	FKI Index, %

TABLE I (continued)

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	6
	CO MONANTO

Elmendorf Tear, g./sheet hine Cross Machine		403	360	3,42	350	367	385	398		357	358	357	360			398	410	351	389		339	371	372	2.66
Elmendorf T g./sheet In Machine Cros		371	303	306	335	322	340	345		300	322	301	305			339	356	323	346		310	326	330	98.8
Bursting Strength, p.s.i. gage		113	おし	118	114	011	† זיר	116		113	118	211	121			120	116	וצו	103		120	115	011	104.5
Caliper, points	September, 1961	12.6	14.1	13.8	12,2	8.21	11.9	13.2		2.21	6.51	13.3	13.4		ed.	↑. 21.	1.1	6.21		_	11.8	12.8	12.6	101.6
Basis Weight,		43.3	43.2	42.6	42.5	43.6	42.9	43.0	No samples submitted	42.8	42.9	42.6	43.0	No samples submitted.		43.6	42.2	42.3	43.1	No sampres sandures on	42.7	42.9	43.3	99.1
Mill		ধ	മ	v	Д	(x1)	(II)	G	н	Н	רי	M	Н	×	Z	0	Д	œ	က (—	n	Current FKI Average:	Cumulative FKI Average:	FKI Index, %

TABLE II

NUMBER OF SAMPLE LOTS SUBMITTED BY EACH MILL

	Number of	Sample Lots
Mill Code	August	September
A B C D	6 12 4 4	4 2 2 2
E	0	2
F	6	4
G	8	4
H	0	0
I	8	4
J	8	4
K	4	5
L	1	4
M	1	0
N	6	0
O	8	4
P	7	2
Q	8	4
S	7	6
T	0	0
U	6	2
Total	104	55

TABLE III

PERCENTAGE DEVIATION FROM 42-LB. BASIS WEIGHT

SPECIFICATION

Mill Code	August	September
A	+3.1	+3.1
B	+3.6	+2.9
C	+2.9	+1.4
D	+1.7	+1.2
E F G H	+4.3 +1.4	+3.8 +2.1 +2.4
I	+2.4	+1.9
J	+1.2	+2.1
K	+2.9	+1.4
L	+1.4	+2.4
M N O P	-0.5 +0.2 +4.5 +1.9	 +3.8 +0.5
Q	+0.5	+0.7
S	+1.9	+2.6
T		
U	+1.2	+1.7

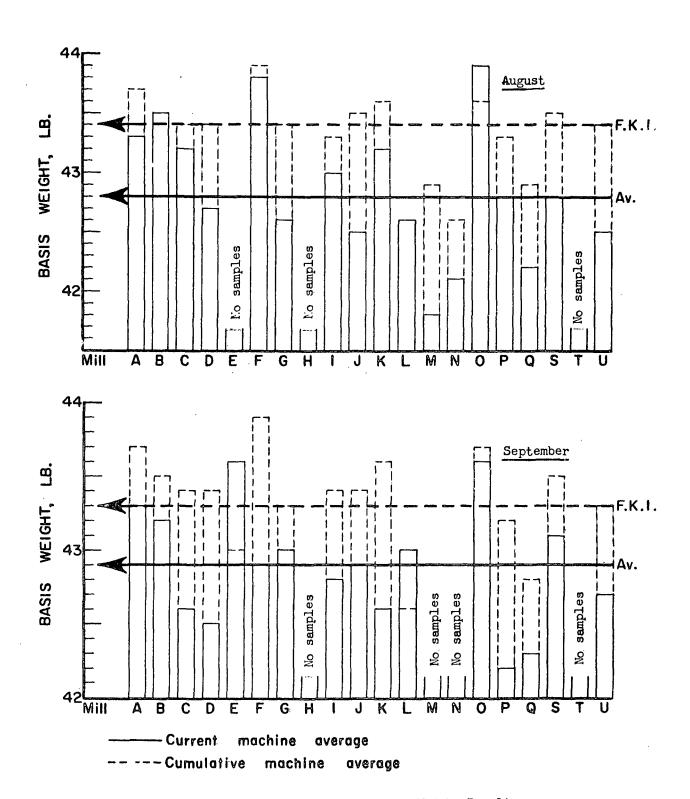


Figure 1. Comparison of Basis Weight Results

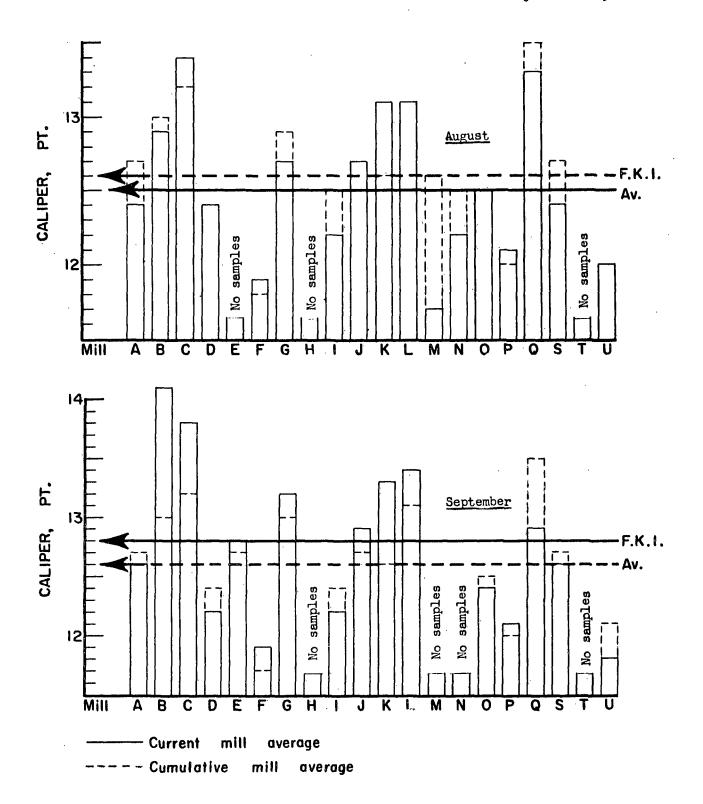


Figure 2. Comparison of Caliper Results

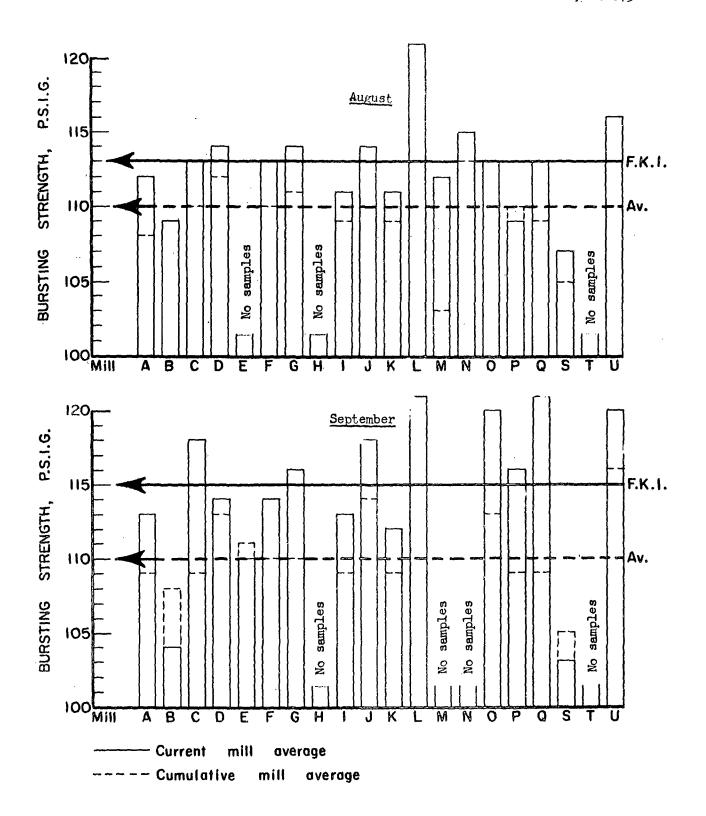


Figure 3. Comparison of Bursting Strength Results

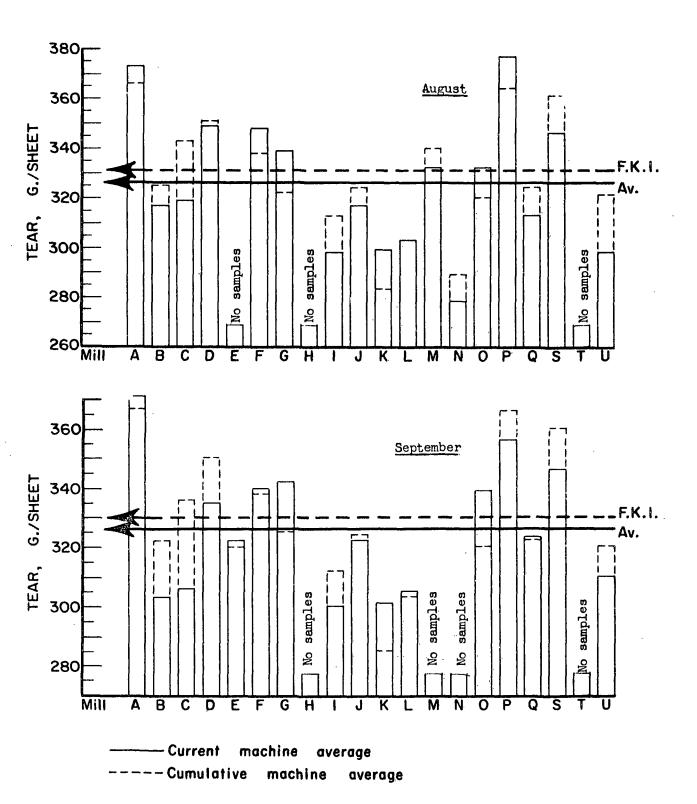


Figure 4. Comparison of Machine-Direction Tear Results

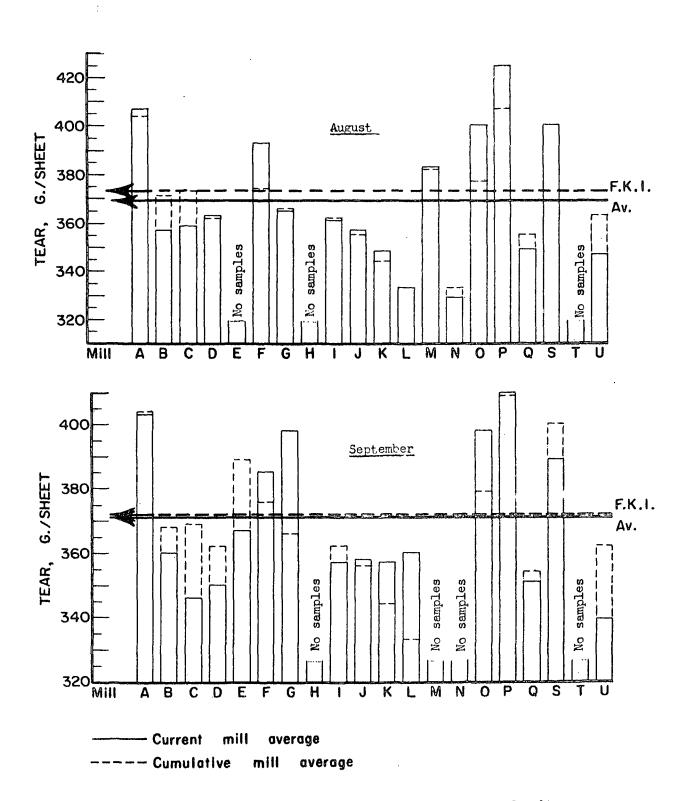


Figure 5. Comparison of Cross-Machine Direction Tear Results

- Fourdrinier Kraft Board Institute, Inc. Project 1108-13

	Current											
		Mill a	Averages	F.K.I.	Averages							
Test	Month	Max.	Min.	Current	Cumulative							
Basis weight, 1b.	A ugust	43.9	41.8	42.8	43.4							
	September	43.6	42.2	42.9	43.3							
Caliper, points	A ugust S eptember	13.4 14.1	11.7	12.5 12.8	12.6 12.6							
Bursting Strength, posoio gage	August	121	107	113	110							
	September	121	103	115	110							
Machine direction Elmendorf tear, g./sheet	August	377	2 78	326	331							
	September	371	300	326	330							
Cross-machine direction Elmendorf tear, g./sheet	August	425	3 2 9	369	373							
	September	410	339	371	372							

The test results obtained at the Institute and at the mill during August and September are given alphabetically in Tables IV to XXIII for each mill. Included in each of these tables are the maximum, minimum and average test data obtained at the Institute on each sample lot of linerboard. The data obtained at the Institute during each month include also for each test the calculation of (1) a current mill average that represents the average of the averages obtained on the individual sample lots of linerboard evaluated during a given month, (2) a cumulative mill average that represents the average of the current mill averages for the previous twelve months excluding the current month, (3) a mill factor expressed in per cent that represents the ratio of the current mill average to the cumulative mill average, and (4) a mill index expressed in per cent that represents the ratio of the current mill average to the cumulative F.K.I. average. As mentioned above, the results presented in Tables IV to XXIII also include data obtained at the mills. The mill data include for each test (1) the average result obtained on each sample lot of linerboard and (2) a current mill average (calculated at the Institute) that

TABLE IV SURMARY OF INSTITUTE AND MILL DATA FOR MILL A

Elmendorf Tear, g./sheet Cross Machine Institute Mill Ax. Min. Av. Av. Diff.		3913 408 +17	409ª 445 +36	409a 447 +38	411ª 389 -22	419ª 409 -10	405a 411 + 6	11+ 817 +11	ş t	100.7	109.1
Elmendorf Tea Cross M Institute Max, Min. Av.		352 39	352 4(376 4	368 41	384 45	368 40	77	₹	2	07
Elmer Ins		, 1 24	460	472	011	4.56	0177				
Diff.		+17	+20	+14	+10	+15	9	ដ្			
. g./sl ine Mill Av.		389	396	376	38	396	368	385			
Elmendorf Tear, g./sheet In Machine Institute Will ax, Min. Av. Av. Diff		372ª	376a	362ª	374a	381ª	374	373	366	9.101	112,7
Elmendorf Tea In Mad Institute Max. Min. Av.		320	320	ģ	336	336	320				
EL Kax		435	456	408	91.4	416	0111				
ength, ge Mill Av. Diff.		٣	٣	7	ځ.	,	0	7			
trength gage Mill Av.		108	106	112	109	121	77	111			
Bursting Strength, P.S.1. Rage Institute Mill Max. Win. Av. hv. D		111	109	110	114	116	717	717	108	103.7	101.8
Bursting P.s.i Institute X. Min. Av		8	aš m	3 95	66 ,	98	89	•			
[8]	August, 1961	£1	128	138	727	671	627				
Diff.	ugust	0.0	-0.1	-0.5	-0.3	7.0-	-0.5	-0.3			
	-41										
dnts Nill Av.	7	12.0	2.5	11.9	12.2	12.0	12.1	17.71			
pot .	7		५.ध ५.ध	12.4 11.9		0.21 4.21			2.21	9.76	7.86
pot .		0.21 0.51 2.11			2.21 2.51 8.11		12.6	12.1	2.21	9.79	7.86
Caliper, points Institute Mill Nax, Min, Av. Av.	~1	०: त	9.21	12,4	2.5	75.4		12.1	2.21	9.76	7°8 6
Caliper, point Institute Nax. Man.	~1	0.51 2.11	५.८० १२.६	11.7 12.4	5.21 8.11	11.9 12.4	12.1 12.6	12.1	2.21	97.6	†*8 6
Caliper, point Institute Nax. Min. kv.	7	43.1 -0.1 12.7 11.5 12.0	13.1 12.0 12.6	13.7 11.7 12.4	13.0 11.8 12.5	43.3 -0.1 12.9 11.9 12.4	13.0 12.1 12.6	43.2 -0.1 12,4 12.1	<i>े</i> दा	9.76	†*8 6
Ant. 15. Caliper, point Mall Institute Av. Diff. Nax. Min. Av.	7	43.1 -0.1 12.7 11.5 12.0	43.6 -0.1 13.1 12.0 12.6	43.0 43.2 +0.2 13.7 11.7 12.4	42.9 -0.4 13.0 11.8 12.5	43.3 -0.1 12.9 11.9 12.4	43.1 42.9 -0.2 13.0 12.1 12.6	-0.1 12,4 12.1		99.1	
Ant. 15. Caliper, point Mall Institute Av. Diff. Nax. Min. Av.	**1	43.1 -0.1 12.7 11.5 12.0	43.6 -0.1 13.1 12.0 12.6	43.0 43.2 +0.2 13.7 11.7 12.4	42.0 43.3 42.9 -0.4 13.0 11.8 12.5	43.3 -0.1 12.9 11.9 12.4	43.1 42.9 -0.2 13.0 12.1 12.6	43.2 -0.1 12,4 12.1	43.7 12.7		n°86 8.98
Caliper, point Institute Nax. Min. kv.	**1	-0.11 22.7 11.5 12.0	-0.1 13.1 12.0 12.6	43.2 +0.2 13.7 11.7 12.4	-0.4 13.0 11.8 12.5	-0.1 22.9 11.9 12.4	42.9 -0.2 13.0 12,1 12.6	43.2 -0.1 12,4 12.1			
Ant. 15. Caliper, point Mall Institute Av. Diff. Nax. Min. Av.	NI N	43.1 -0.1 12.7 11.5 12.0	43.0 43.7 43.6 -0.1 13.1 12.0 12.6	42.0 43.0 43.2 +0.2 13.7 11.7 12.4	42.0 43.3 42.9 -0.4 13.0 11.8 12.5	43.3 -0.1 12.9 11.9 12.4	43.1 42.9 -0.2 13.0 12.1 12.6	43.3 43.2 -0.1 12,4 12.1	43.7		
Basis Weight, 1b. Caliper, point Institute Mill Institute Max. Min. Av. Av. Diff. Nax. Min. Av.	**1	44.0 42.2 43.2 43.1 -0.1 12.7 11.5 12.0	43.0 43.7 43.6 -0.1 13.1 12.0 12.6	42.0 43.0 43.2 +0.2 13.7 11.7 12.4	42.0 43.3 42.9 -0.4 13.0 11.8 12.5	44.0 42.2 43.4 43.3 -0.1 12.9 11.9 12.4	43.1 42.9 -0.2 13.0 12.1 12.6	43.2 -0.1 12,4 12.1			

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE IV (continued)
SUBARRY OF INSTITUTE AND MILL DATA FOR MILL A

eet Diff.		-16	. 2	±26	-12	ပ			
ર્જ		404	415	403	369	403			
Sorf Tear, g./ Cross Eachine itute Hill in, Av. Av.		423a	413a	377ª	401 ^a	403	707	8.66	106.3
Elmendorf Tea Cross M Institute Max. Min. Av.		384 4	352 4	美	336 4	<i>.</i> ‡	4		٦.
Elmer Ins		75.7	472	716	432				
Diff.		-22	व.	-27	÷39	-23			
g./shee		397	583	401	396	3,5%			
1.21		375ª 3	3714 3	360ª 4	35?ª 3		<i>(~</i>	101.1	772.6
Elmendorf T In E Institute ax. Min. A		320 37	320 37	336 38	328 35	371	367	10	11
Slmendorf Tea In Mac Institute Max. Min. Av.		432 3	35 944	140 3	36 38				
1 12:		.3	.7	<i>=</i> †	n				
ength, ge Mull Av. Diff.		7	Ÿ	7	'n	τ.			
rength ALII AV.		55	109	109	105	108		~	^
Bursting Strength, D.S.1. E3Ge nstitute Mill Ein. Av. Av. E		113	115	113	110	113	109	103.7	102.7
Bursting S p.s.i. Institute	-41	95	90	66	83				
ax	September, 1961	134	140	7.5	131				
Diff.	tember	-0.2	-0.2	-0.1	4.0-	-6.3			
شا	읽	•	,	•	•	•			
et .	Sep	12.2	12.2	12.3	12.5	. 6.21			
r, points (411)	dag	12.2	12.2	12.3	5.51	12.3	7.21	99.2	0.00
e inits	Ge S	12.2	12.4 12.2	12.4 12.3	12.9 12.5		12.7	3.66	100.0
e inits	das	12.2	11.6 12.4 12.2	12.0 12.4 12.3	12.2 12.9 12.5	12.3	12.7	5*66	100.0
Caliber, points Institute (41) Fax. Fin. ev. Av.	də <u>s</u>	13.0 11.6 12.4 12.2	13.2 11.6 12.4 12.2	13.0 12.0 12.4 12.3	13.7 12.2 12.9 12.5	12.6 12.3	12.7	5*66	100.0
Caliber, points Institute Mall Diff. Max. Min. W. Av.	des	-0.1 13.0 11.6 12.4 12.2	-0.1 13.2 11.6 12.4 12.2	-0.2 13.0 12.0 12.4 12.3	6.0 13.7 12.2 12.9 12.5	-0.1 12.6 12.3	12.7	2*66	100.0
Caliber, points Institute Mall Diff. Max. Min. W. Av.	des.	43.2 -0.1 13.0 11.6 12.4 12.2	43.5 -0.1 13.2 11.6 12.4 12.2	42.9 -0.2 13.0 12.0 12.4 12.3	13.7 12.2 12.9 12.5	43.2 -0.1 12.6 12.3	12.7	2*66	100.0
Hit, 15. Caliber, points Mill Institute 1911 Av. Diff. Nax. Finv. Av.	985	43.2 -0.1 13.0 11.6 12.4 12.2	43.5 -0.1 13.2 11.6 12.4 12.2	42.9 -0.2 13.0 12.0 12.4 12.3	43.2 6.0 13.7 12.2 12.9 12.5	43.2 -0.1 12.6 12.3	43.7	99.1	
Hit, 15. Caliber, points Mill Institute 1911 Av. Diff. Nax. Finv. Av.	985	43.2 -0.1 13.0 11.6 12.4 12.2	43.5 -0.1 13.2 11.6 12.4 12.2	42.9 -0.2 13.0 12.0 12.4 12.3	43.2 6.0 13.7 12.2 12.9 12.5	-0.1 12.6 12.3			100.0
Hit, 15. Caliber, points Mill Institute 1911 Av. Diff. Nax. Finv. Av.	985	43.2 -0.1 13.0 11.6 12.4 12.2	43.5 -0.1 13.2 11.6 12.4 12.2	42.9 -0.2 13.0 12.0 12.4 12.3	43.2 6.0 13.7 12.2 12.9 12.5	43.2 -0.1 12.6 12.3			
Basis Weight, 1b. Galiber, points Institute Will institute Mill institute Mill institute Mr. Av. Av. Av.	985 985	-0.1 13.0 11.6 12.4 12.2	45.0 43.0 43.6 43.5 -0.1 13.2 11.6 12.4 12.2	44.0 42.0 43.1 42.9 -0.2 13.0 12.0 12.4 12.3	44.0 42.2 43.2 43.2 6.0 13.7 12.2 12.9 12.5	43.3 43.2 -0.1	43.7		
Sasis Weight, 10.Caliber, pointsXch.InstituteMillNo.Nax.Av.Av.No.Nax.Av.Av.	<u>998</u>	. 44.0 42.4 43.3 43.2 -0.1 13.0 11.6 12.4 12.2	- 44.0 43.0 43.6 43.5 -0.1 13.2 11.6 12.4 12.2	. 44.0 42.0 13.1 42.9 -0.2 13.0 12.0 12.4 12.3	- 44.0 42.2 43.2 43.2 6.0 13.7 12.2 12.9 12.5	43.3 43.2 -0.1	43.7		
Basis Weight, 1b. Galiber, points Institute Will institute Mill institute Mill institute Mr. Av. Av. Av.	<u>998</u>	43.2 -0.1 13.0 11.6 12.4 12.2	45.0 43.0 43.6 43.5 -0.1 13.2 11.6 12.4 12.2	44.0 42.0 43.1 42.9 -0.2 13.0 12.0 12.4 12.3	44.0 42.2 43.2 43.2 6.0 13.7 12.2 12.9 12.5	43.3 43.2 -0.1	43.7	99.1	100.0
Sasis Weight, 10.Caliber, pointsXch.InstituteMillNo.Nax.Av.Av.No.Nax.Av.Av.	985 Jan 1985	. 44.0 42.4 43.3 43.2 -0.1 13.0 11.6 12.4 12.2	- 44.0 43.0 43.6 43.5 -0.1 13.2 11.6 12.4 12.2	. 44.0 42.0 13.1 42.9 -0.2 13.0 12.0 12.4 12.3	- 44.0 42.2 43.2 43.2 6.0 13.7 12.2 12.9 12.5	43.2 -0.1 12.6 12.3			

 4 puis average includes the readings for one or more specimens which tore beyond the 3/5-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE V

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL B

heet	biff.		+13	- 2	6 -	+	00	-11	+18	9 -	+32	9 +	- 3	+13	-st -4				
Elmendorf Tear, g./sheet Gross Machine	M3 11 4V.		₹ %	360	374	358	371	372	389	3,46	387	342	318	35	361				
orf Tear, g./ Cross Machine	Av.		351ª	367ª	383ª	35?ª	379ª	383ª	371ª	352ª	355ª	¥13	321ª	327ª	357	371	96.2	95.7	
Cr	Institute Max. Min. Av		320	315	*	320	336	328	差	320	320	ģ	280	36					
ਰੋ	Max	•	376	416	435	914	40	406	435	7,00	392	368	360	360					
leet	Diff.		-27	1 -	-32	٠ ع	-31	-23	-19	-27	-31	- 2	-33	-26	-22				
Elmendorf Tear, g./sheet In Machine	Mali.		322	318	307	58	\$	588	300	275	318	277	564	192	295				
rf Tear, g In Machine			34.9a	329ª	339ª	297ª	325ª	309ª	3194	302ª	3492	279ª	297	303	317	325	5.79	95.8	
endorf	Institute Max. Min. Av.		264	240	36	5 97	256	272	280	240	596	240	232	272					
E	Äax.		416	368	004	336	80 ₄ 7	, \$	392	蕉	416	328	376	744					
.	Diff.		2	4	0	7	÷	÷	rt	o	٩	7	7	67	7				
Bursting Strength, p.s.i. gage	E3.11 Av.		ш	114	66	106	117	316	112	109	96	707	102	109	108				
sting Streng p.s.i. gage	Av.		113	110	66	717	114	119	111	109	101	105	101	Ħ	109	109	100.0	99.1	
Burst	Max. Min. Av.		16	96	20	%	85	85	80	85	87	82	83	83					
,	Nax.	1961	137	129	120	129	345	141	137	142	116	126	118	126					
1	Diff.	August, 1961	-0.3	-0.5	ħ*0-	-0.3	-1.0	-0.5	6.0-	6.5	-0.7	-0.7	9.0-	-0.2	-0.5				
ints	AV.	,	12.7	9.21	12.3	12.5	12.5	12.2	12.6	12.7	12.2	2.51	0.ध	11.9	17.71				
Caliper, points	, A7		13.0	13.1	12.7	12.8	13.5	12.7	13.5	13.5	6.21	12.9	12.6	12.1	6.ध	13.0	2.66	102.4	
Calipe	Min.		17.71	12.8	12.0	12.0	12.7	12.1	12.4	12.0	0.21	12.3	12.0	11.2		-	O.	H	
	Max.		13.8	13.5	13.6	13.7	14.3	13.3	14.1	14.1	13.7	13.4	13.1	13.1					
1															0				
	Mff.		+0.1	-0.1	+0.3	+0.3	-0.5	-0.5	-0.2	†°0+	+0.2	0.0	+0.1	-0.5	0.0				
Basis Weight, 1b.	AV.		43.8	43.6	43.8	43.2	44.5	43.4	O. 144	#3.8	42.9	43.0	42.5	43.8	43.5				
s Kein	۸۰,		43.7	43.7	43.5	42.9	45.1	43.9	5: ##	44.2	42.7	43.0	45.4	43.3	43.5	43.5	100.0	100.2	
Basis	Min.		42.8	43.0		42.0	0.44			45.4	41.8	42.0		41.6			4	-	
1	Max. Min.		14.2 42.8 43.7	43.0 43.7	44.6 42.2	44.0 42.0	1.6.4 44.0 45.1	45.6 42.2	46.0 42.2	46.0 42.4	41.8	43.6 42.0	43.6 41.2	44.0 41.6 43.3					
i d			-	 	7	,,,	rt	-	-	-1	1	-	~	ď		rage:			
-	Finish		1	ł	į	:	-	ļ		!	:		i	1	Current Mill Average:	Cumulative Mill Average	₩.	~	
			-												t #111	tive Y	actor,	dex, 9	
4 6 L	Xade		6-15-61	6-15-51	6-27-61	5-27-61	7-24-51	7-24-61	7-24-61	7-25-61	8- 3-61	8- 7-61	8-12-61	8-13-61	Curren	Cumula	Mill Factor, &	Mill Index, %	

This average includes the readings for one or more specimens which tore beyond the 3/2-inch limit. Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE V (continued)

SURGERY OF INSTITUTE AND MILL DATA FOR MILL B

نو ا		62+	-10	- 10			·
/sheet		390 +	350 -	370 -			
Elmendorf Tear, g./sneet Gross Machine Institute Mill ax. Min. Av. Dif				360	92	8.76	8.96
Imendorf Tea Cross M Institute x. Min. Av.		36 36	36 36	%	368	UV.	O.
Elmendorf Tea Cross Institute Max. Min. Av.		400 336 361 ^a	416 320 360 ^a				
				~			
sheet Diff.		-20	-38	-29			
g./ mill Av.		279	692 1	274		۲.	ω,
Elmendorf Tear, g. In Machine Institute MAX. Min. Av. Av.		368 248 299	352 256 307ª	303	322	: \$	91.8
Imendorf Te In Ma Institute X. Min. AV	•	3 248	256				
EL Max		396	352				
DAFF.		7	7	7			
Bursting Strength, p.s.1. gage nstitute Mill Hin. Av. Av. Diff.		106	100	103			
rsting Stren D.S.1. gage Situte Mi in. Av. Av		107	79 101	70,	108	96.3	\$.5
Bursting S p.s.t. Institute Max. Min. Av.		79 107	52				
Max	196	129	6 †1	,			
olff.	September, 1961	4.0-	6.0-	9.0-			
ints Mill Av. Diff	őΙ	13.1	13.9	13.5			
Caliper, points titute Mil.		13.5	14.8	14.1	13.0	108.5	9,111
Calipe Institute		12.8	13.9			-	H
Caliper, Institute Max. Min. Av.		3.51 8.21 4.41	15.4 13.9 14.8				
		⊅. 0+	+0.1	,0,2			
Av. Diff.			43.6	43.64			
		44.2 41.2 42.9 43.3		43.2 4	43.5	99.3	8.66
sis We		.2 42	0.	4	4	86	8
Basis Weight Institute Max, Min, Av.		.2 41	44.6 42.0 43.5				
		#	3				
Xch.		٦	н	ය ආ	\verage		
Finish		;	ŀ	11 åver	MIII (30. L	144. LT
Date Made F		9- 2-61	19-9 -6	Current Mill Average:	Cumulative Mill Average:	Mill Sactor, %	Mill Index, §

 4 Phis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

Note: All "current mill average" data are salculated from the totals of the individual readings.

TABLE VI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL C

Elmendorf Tear, g./sheet Gross Machine Institute Mill Max. Min. Av. Av. Diff.		416 320 360 ⁸ 441 +81	376 328 352ª 362 +30	384 320 356 ^a 339 -17	400 328 369 ^a 356 -13	12, 036 955	373	96.2	96.2		352 320 240 ⁸ 385 345	320 352 ^a 393	£4 389 -43		93.8	93.0	
Elmenderf Tear, s./sheet In Machine Institute Max, Min, Av. Av. Diff.		392 312 347ª 410 +63	360 272 305 326 +21	352 256 295 301 + 6	392 272 329 ⁴ 307 -22	319 336 +17	の表	93.0	~*96		352 248 306a 347 -41	336 272 306ª 351 :45	£47 546 306	336	91.1	52.7	
Bursting Strength, D.914, Rage Institute Mill Max. Min. Av. Av. Diff,	1961	131 92 110 104 -6	132 90 114 107 -7	135 90 113 111 -2	135 99 116 114 -2	44 601 و111	110	102.7	102.7	r, 1961	01- 601 611 86 981	141 88 118 107 -11	118 108 -10	109	108.3	107.3	
Caliper, points Institute Mill . Min. Av. Av. Diff.	August, 1961	13.2 14.0 14.0 0.0	13.0 13.2 12.7 -0.5	13.0 13.3 12.6 -0.7	.0 13.3 12.6 -0.7	13.4 13.0 -0.4	13.2	101.5	106.3	September, 1961	13.1 13.8 13.1 -0.7	13.1 13.8 13.2 -0.6	13.8 13.2 -c.6	13.2	104.5	109.5	
Diff, Max, M		43.4 +0.6 14.5 13	42.8 -0.9 13.8 13	42.9 -0.1 14.0 13	42.9 -0.5 13.8 13.0	43.0 -0.2					+0.6 14.2	43.2 +0.6 14.3 13	43.2 +0.6				
Basis Weight Institute Max. Min. Av.		43.4 42.2 42.8	44.0 43.0 43.7 4	43.8 42.2 43.0 4	4 4.54 42.8 43.44	43.2 4	43.64	5.66	5.66		43.4 42.0 42.6 43.2	43.8 42.0 42.6 4	42.6	43.64	96.2	4.86	
Date Mch.		7-15-61 WFLS 1	8-14-61 VF1S 1	8-14-61 WFIS 1	3-15-61 WF1S 1	Current Mill Average:	Cumulative Mill Average:	Mill Factor, *	Mil Index, %		9- 3-61 7815 1	9- 5-61 WPLS 1	Current Mill Average:	Cumulative Mill Average:	Mill Factor, \$	Mill Index, %	•

 a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE VII SUMMARY OF INSTITUTE AND MILL DATA FOR MILL D

1 .			_								<i>رد</i> ا	۲	~			
sheet		-53	, W	+19	#T+	+ 5					-13	4	1			
Elrendorf Tear, g./sheet Cross Machine Institute Mill ax. Mir. Av. Av. Dif		363	352	373	371	365		9	۳۱		# ¥	a 351	7,58		.2	r.
rf Tea ross X nute Av.		386ª	355ª	354ª	357ª	363	362	100.3	97.3	•	5 357ª	, 3444a	350	362	7.96	4:1
Elmendorf Tea Cross: Institute Max. Min. Av.		328	0 320	0 320	5 320						384 326	±0€ 90±				
(v) (v)		472	007	400	416						₩	<u>.</u>				
Diff.		71-	-35	-23	7	-17					-10	-13	-12			
g./sk M411 Av.		3.55	317	325	346	332					337	369	323			
날림		356 ^a	まな	34.Eª	素	34.9	351	7.56	105.4		3478	322ª	335	350	95.7	101.5
Elmendorf Tea In Mac Institute Max. Mir. Av.		315	ಕ್ಲ	320	315						Ķ	272				
Elmi In Max.		448	004	877	368						392	376				
Diff.		Ϋ́,	-2	က္	7	- 5					-10	6	-10			
튒녆		110	011	106	109	109					102	106	104			
sting Stren p.s.i. gage liute %i n. Av. Av		115	117	114	111	77.	211	101.8	103.6		112	115	114	113	100.9	103.6
Bursting S p.s.i. Institute Max. Min. Av.		96	91	68	95					r i	100	ま				
Max.	1961	130	136	134	132					r. 196	326	129				
Diff.	August, 1961	+0.1	10.1	-0.3	+0.2	0.0				September, 1961	0.0	-c.1	0.0			
1.	-101											_				
Av.		 	12.5	12.3	12.4	ग: टा					12.4	6.3	2.51			
r. poi							2.4	0.00	7.8		12.4 12.4	12.1 12.0	2.21 2.21	क .टा	₽. .36	3.96
r. poi		22.3	15.4	32.6	2.21	गंटा भंटा	ħ. <u>5</u> .	100.0	7.86		72.4	12.1		 *•≈	7€.4	96.8
Caliper, poi nstitute Min, Av.		6.25 1.11	५.दा ३.ध	9.टा ७.टा	11.5 12.2		ħ. Zť	100.0	₩.86		4.21 0.51	11.3 12.11		५ .ध	4.36	3.96
Caliper, poi Institute Max. Min. Av.		13.0 11.11 12.3	13.T 11.5 12.4	13.2 12.0 12.6	12.9 11.5 12.2	4° 21	4.21	100.0	₩.86		13.0 12.0 12.4	13.0 11.3 12.1	2.21	*·a	4.36	96.8
Caliper, poi nstitute Min, Av.		-6.1 13.0 11.1 12.3	-0.1 13.T 11.5 12.4	9.21 0.21 2.61 5.0+	+0.9 12.9 11.5 12.2	+6.2 12.4	4.21	100.0	↑*86		4.01 13.0 12.0 12.4	13.0 11.3 12.1	+0.1	12.4	†. 36	3.96
Caliper, poi Institute Diff. Wax. Min. Av.		13.0 11.11 12.3	13.T 11.5 12.4	13.2 12.0 12.6	42.5 ±0.9 12.9 11.5 12.2	+6.2 12.4	7.21	100.0	7.86		43.4 +0.4 13.0 12.0 12.4	41.9 -6.1 13.0 11.3 12.1	42.6 +0.1 12.2	12.4	7.36	3.96
ght, lb. Galiper, poi Mill Institute Av. Diff. Max. Min. Av.		43.1 -0.1 13.0 11.1 12.3	42.8 -0.1 13.T 11.5 12.4	43.3 +0.3 13.2 12.0 12.6	42.5 ±0.9 12.9 11.5 12.2	4° 21			τ· 86		43.4 +0.4 13.0 12.0 12.4	41.9 -6.1 13.0 11.3 12.1	+0.1	43.4 12.4	97.99	96.2 96.8
ght, lb. Galiper, poi Mill Institute Av. Diff. Max. Min. Av.		43.1 -0.1 13.0 11.1 12.3	42.8 -0.1 13.T 11.5 12.4	43.3 +0.3 13.2 12.0 12.6	42.5 ±0.9 12.9 11.5 12.2	+6.2 12.4	4.54	98.4			43.4 +0.4 13.0 12.0 12.4	41.9 -6.1 13.0 11.3 12.1	42.6 +0.1 12.2			
Caliper, poi Institute Diff. Wax. Min. Av.		-6.1 13.0 11.1 12.3	-0.1 13.T 11.5 12.4	9.21 0.21 2.61 5.0+	+0.9 12.9 11.5 12.2	+6.2 12.4					4.01 13.0 12.0 12.4	13.0 11.3 12.1	42.6 +0.1 12.2			
Basis Weignt, lb. Galiper, poi Institute Mill Institute Max. Min. Av. Av. Diff. Max. Min. Av.		43.1 -0.1 13.0 11.1 12.3	42.8 -0.1 13.T 11.5 12.4	43.3 +0.3 13.2 12.0 12.6	42.5 ±0.9 12.9 11.5 12.2	42.7 42.9 +6.2	4.54				43.4 +0.4 13.0 12.0 12.4	41.9 -6.1 13.0 11.3 12.1	42.5 42.6 +0.1	43.4		
Mch. Institute All Institute No. Max. Min. Av. Av. Diff. Max. Min. Av.		- 43.8 42.2 43.2 43.1 -0.1 13.0 11.1 12.3	- 43.8 42.0 42.9 42.8 -0.1 13.1 11.5 12.4	- 44.0 42.0 43.0 43.3 +0.3 13.2 12.0 12.6	- 42,4 40,4 41,6 42,5 40,9 12,9 11,5 12,2	42.7 42.9 +6.2	4.54	4.56	₹*86		- 43.6 42.0 43.0 43.4 +0.4 13.0 12.6 12.4	- 42,4 41,0 42,0 41,9 -6,1 13,0 11,3 12,1	42.5 42.6 +0.1	43.4	97.9	. 96.2
Basis Weignt, lb. Galiper, poi Institute Mill Institute Max. Min. Av. Av. Diff. Max. Min. Av.		A.F 43.8 42.2 43.2 43.1 -0.1 13.0 11.1 12.3	43.8 42.0 42.9 42.8 -0.1 13.1 11.5 12.4	%.5 44.0 42.0 43.0 43.3 +0.2 13.2 12.0 12.6	7.5 42,4 40,4 41.6 42.5 ±0.9 12.9 11.5 12.2	42.7 42.9 +6.2	4.54	4.56	₹*86		X.F 43.6 42.0 43.0 43.4 +0.4 13.0 12.0 12.4	W.F 42,4 41,0 42,0 41,9 -6,1 13,0 11,3 12,1	42.5 42.6 +0.1	43.4	97.9	. 96.2
Mch. Institute All Institute No. Max. Min. Av. Av. Diff. Max. Min. Av.		- 43.8 42.2 43.2 43.1 -0.1 13.0 11.1 12.3	- 43.8 42.0 42.9 42.8 -0.1 13.1 11.5 12.4	- 44.0 42.0 43.0 43.3 +0.3 13.2 12.0 12.6	- 42,4 40,4 41,6 42,5 40,9 12,9 11,5 12,2	+6.2 12.4					- 43.6 42.0 43.0 43.4 +0.4 13.0 12.6 12.4	- 42,4 41,0 42,0 41,9 -6,1 13,0 11,3 12,1	42.6 +0.1 12.2			

^aThis average includes the readings for one or more specimens which tore beyond the $3/\epsilon$ -inch limit.

TABLE VIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL B

Simendorf Tear, g./sneet <u>Cross Asoline</u> <u>Institute</u> Hill Max, Hin. Av. Av. Diff.				416 325 366 ² 424 -56 392 336 369 ² 42: -55	65 45 656	389	e de la companya de l	6.36
Elmendorf Tear, g./sheet In (achine Instituto Mill Nax, Min, Av. kv. Diff.				416 272 325 ⁸ 365 -40 352 272 315 ⁶ 343 +24	322 354 - 32	320	100.6	97.6
Bursting Strength, D.S.1. Rage Institute Mill Max. Min. Av. Av. Diff.	1961	ubmitted.	1961	124 100 110 103 -7 123 97 110 102 -8	110 102 -8	1111	99.1	100.0
Caliper, points Institute Mill Max. Min. Av. Av. Diff.	August, 1961	No samples submitted.	September, 1961	14.3 12.1 13.0 12.7 -0.3 13.4 11.9 12.5 12.8 -0.3	12.8 12.8 0.0	12.7	100.8	101.6
Basis Weight, lb. Institute Will Max. Min. Av. Av. Diff.				44.0 42.6 43.6 43.9 +0.3	43.6 43.6 0.0	43.0	101.4	100.7
Date Moh. Made Finish No.				8-29-61 %P1S 1 9- 7-61 %F1S 1	Current Mill Average:	Cumulative Mill Average:	Mill Factor, &	Mill Index, 5

 $^{
m a}$ hits average includes the readings for one or more specimens which tore beyond the j/S-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE IX SUMMARX OF INSTITUTE AND MILL DATA FOR MILL F

heet	.jjta		·16	at •		, Q	, ,	,	ţ	÷				
Elmendorf Tear, g./sheet Cross Machine	1111 44.		424	378	395	403	Ç.		³	34		_	_	-
lorf Tear, g./ Cross Machine	ite Av.		408a	374ª	393ª	397ª	2663	3 '	399	393	374	,	102.1	105.4
ropual Cr	Institute Max. Min. Av.		368	328	360	360			352					
TG TG	Wax		04/4	4.18 11.18	435	432	, ;	01	456					
neet	Piff.		80	-14	+ 5	. 5		+T.	61-	.)				
Slmendorf Tear, g./sheet	M111 4v.		36	331	345	3,52	. ;	<u>*</u>	美	<u>*</u>			۵.	
Tear	tute Mi.		372ª	345	337ª	352		317	363	348	338		103.0	105.1
endorf	Institute Max. Min. Av.		320	296	ş S	312		564	315					
F. 15	Max.		432	416	₹ 36	392	,	其	454					
	Diff.		2	7	ţ	?	ì	t,	7,	0				
Bursting Strength,	4 :		977	105	109	711	2	115	119	113			¢.	.7
ing St	D.S.i. Eage itute Mi in. Av. Ai		118	106	106			112	117	113	011		102.7	102.7
Burst	D.S.i. Institute Max. Min. Av.		105	86	89	-		25	1 100					
	Way	August, 1961	129	122	128		à	135	141					
	DAff.	August	4.0-	-0-3	0		2.0-	4.0-	-0.2	-0.3				
	ints Mill Av.		11.7	11.3	. ש	1 2	6.11	11.3	11.9	11.6				
	Caliper, points titute Mil		12.1	11.6			o.	7:11	12.1	11.9	5		100.8	↑. ま
	Calipe Institute Min.		11.8	5,11	1 5	(11	11.5	11,2	11.9					
	Caliper, Institute Max, Min. Av.		9:ম	5 51	: :	:	: स	12.3	12.4					
	Diff.		-0.7	, r	}	1.0+	8.0+	†.0 +	4°0+	+0-1				
			5. 44) "		4.3.5	8: #	43.4	7. 1	43.9	;			
	Basis Weight, 1b.		ď.			43.4	0.#	5.0	0.4	8		43.9	8,66	100.9
	Basis Institute Min.		7	> \		45.2	43.8	7 4.5	8.8	-				-
	Basis Institute Max. Min.		C. 24 A Mr. 2 45.0		+:C+ 0:2+ 0:+h	α. ‡	4.2.44	43.8 42.4 43.0	4.44 4.3.8					
	Mch.		,	•	~	~	ζ,	~	. ~		: eg	erage:		
	Finish			30	 70	E.E.	 	(s.	اد. بر		ii Avera	3511 44	, A	. ₅₀ .
	Date Made F					7-26-61	8- 1-61	8- 2-Ki		:	Current Mill Average:	Cumulative Mill Average:	0 0 0 0 0 0	Mill Index. \$
				ç~	C.	Ç-	യ	u	, (•	

 4 This average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

TABLE IX (continued)
SUMMARY OF INSTITUTE AND MILL DATA FOR MILL F

1		9	C)	0	۲-					
sheet		ı	-22	10	+27					
chine		385	377	393	ž.	367				
Elmendorf Tear, g./sheet Cross Machine Institute Xill Max. Min. Nv. Nv. Diff		391ª	399ª	3834	367ª	365	376	102.4	103.5	
Elmendorf Tea Cross M Institute Max. Min. Av.		ţ	352	336	596					
T X		140	844	408	004					
Diff.		£1 -	-27	9+	± 1 +	· 5				
g./sh ne Mill av.		333	322	3#1	332	332				
니크 니크		3#6	346	335	326ª	9,70	338	100.6	103.0	
Elmendorf Tear In Mach Institute Max. Min. Av.		280	320	305	268					
15. A.		716	₫ Ж	360	368					
ength, ge Mill Av. Diff.		-5	ځ.	0	0	7				
		114	711	пз	110	717				
Bursting Streng D.S.1. Edge Institute Min. Max. Min. Av. Av.		971	11.7	113	110	717	110	103.6	103.6	
Bursting p.s.1 Institute k. Min. Av		8	95	88	88					
Max	1961	136	136	133	133					
	9									
Diff	eptemb	-0.3	-0.5	17.0-	-0.5	4.0-				
ints Mili Av. Diff.	September, 1961	11.5 -0.3	11.5 -0.5	11.4 -0.4	11.6 -0.5	11.5 -0.4				
Points Mill Av.	Septemb						11.7	7.101	4.46	
Points Mill Av.	Septemb	11.8 11.5	2.0 11.5	11.8 11.4	12.1 11.6	u.5	11.7	101.7	7.75	
1.	Septemb	11.5	11.5	7.11	11.6	u.5	11.7	101.7	カ·ま	
Callper, points Institute MAIL MAX. Man. Av. Av.	Septemb	12.1 11.3 11.8 11.5	3.11 0.21 9.11	12.11 11.2 11.8 11.4	12.7 11.7 12.1 11.6	5.11 9.11	11.7	101.7	#*#\$	
Caliper, points Institute Mill Diff. Max. Win. Av. Av.	Septemb	12.1 11.3 11.8 11.5	12.3 11.6 12.0 11.5	12.11 11.2 11.8 11.4	42.6 -0.4 12.7 11.7 12.1 11.6	5.11 9.11	.2.11	101,7	7.76	
Mil) Caliper, points Mil) Institute Mill Av. Diff. Max. Min. Av. Av.	Septemb	12.1 11.3 11.8 11.5	43.2 0.0 12.3 11.6 12.0 11.5	12.11 11.2 11.8 11.4	42.6 -0.4 12.7 11.7 12.1 11.6	u.5	43.9	7.79	99.1	
Mil) Caliper, points Mil) Institute Mill Av. Diff. Max. Min. Av. Av.	Septemb	12.1 11.3 11.8 11.5	43.2 0.0 12.3 11.6 12.0 11.5	12.11 11.2 11.8 11.4	42.6 -0.4 12.7 11.7 12.1 11.6	5.11 9.11				
Caliper, points Institute Mill Diff. Max. Win. Av. Av.	Septemb	11.3 11.8 11.5	0.0 12.3 11.6 12.0 11.5	11.2 11.8 11.4	12.7 11.7 12.1 11.6	5.11 9.11				
Mil) Caliper, points Mil) Institute Mill Av. Diff. Max. Min. Av. Av.	Septemb	12.1 11.3 11.8 11.5	43.2 0.0 12.3 11.6 12.0 11.5	12.11 11.2 11.8 11.4	42.6 -0.4 12.7 11.7 12.1 11.6	42.9 43.1 .0.2 11.9 11.5	43.9			
Easis Weight, 1b. Caliper, points Institute Mill Institute Mill Max. Min. Av. Av. Diff. Max. Min. Av. Av.	Septemb	43.6 42.0 43.0 43.4 -0.4 12.1 11.3 11.8 11.5	43.2 0.0 12.3 11.6 12.0 11.5	43.6 42.6 43.0 43.4 +0.4 12.1 11.2 11.8 11.4	42.6 -0.4 12.7 11.7 12.1 11.6	5.11 9.11				

^aThis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

TABLE X

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL G

نو ا		=	2		.7	ਜ਼	7	ōύ	2	5			
Elmendorf Tear, g./sheet Cross Machine Institute Mill ax. Min. Av. Av. Diff.		3 +24	2 +37	6 +51	4 +17	5 #1	† † O	5 +29	29+ 2	8 +33			
Elmendorf Tear, g./ Cross Machine Institute Mill Max. Min. Av. Av.		a 383	a 402	30 th 06	a 374	a 405	a 370	a 425	a 417	398		99.7	6.79
Dmendorf Te Cross Institute X. Min. AV		8 359ª	6 365ª	o 355ª	2 357ª	5 364ª	2 366ª	8 396ª	2 355ª	365	366	66	8
Insti		384 328	400 336	416 320	400 312	392 336	424 312	416 368	716 004				
一 選		~	4	3	ă	ĸ	¥	4	. 3				
Diff.		+35	+5+	+37	+	αο +	11+	+22	+54	+50			
g./si ine Mill Av.		403	604	399	302	317	319	377	3,45	359			
Elmendorf Tear, g./sheet In Nachine Institute AXII AX. Min. AV. AV. Diff		368ª	385ª	362ª	301	309	308ª	355	321	339	322	105.3	102,4
Elmendorf Tea In Mac Institute Max, Min. Av.		312	352	320	272	288	240	312	272				
Elm Max.		432	0111	1 24	336	336	376	424	376				
Diff.		7	+ 2	۶-	7	9	7	7	7	7			
₩ EI .		210	H	108	911	011	ET.	113	115	77			
sting Stren <u>P.S.1. gage</u> titute M tin. Av. A		2112	109	115	117	911	117	109	777	114	Ħ	102.7	103.6
Bursting St P.S.1. P Institute Max. Min. Av.		8	16	103	88	8	8	88	95				
Max.	1961	130	756	627	135	133	143	128	138				
Diff.	August, 1961	0.0	-0.2	9.0-	9.0-	-0.3	-0.1	-0.3	-0.1	-0.3			
<u> </u>		11.8	11.8	11.3	12.5	6.21	6.21	13.0	13.0	12.4			
Caliper, points titute Milli Un. Av. Av.		11.8	0.51	11.9	13.1	13.2	13.0	13.3	13.1	12.7	6.21	4, 86	100.8
Calipe Institute . Min.			11.9	: 5.11	12.5	8.21	12.5	. 6.21	12.8	•	,,	•	Ä
Ins Max.		12.2 . 11.1	12,21	2.21	13.4	13.8	13.5	13.6	13.4				
Diff.		+0.3	+0.5	+0.7	-0.2	+1.1	+0.5	-0.1	+0.2	+0.3			
Basis Weight, lb.		42,8	42.6	42.8	45.4	43.2	42.8	43.4	43.3	42.9			
Weigh Av.		42.5	42.1	42.1	45.6	42.1	42.3	43.5	43.1	42.6	43.4	98.2	98.2
Basis Institute		42.0 42.5	41.6	41.8	41.6	41.4	41.0 42.3	42.2	42.4 43.1				
Basis Wei Institute Max. Min. Av.		43.2	42.8	42.6	43.8	43.0	43.0	0.41	0.				
Moh.		~	2	. ~	8	8	N	~	8	 	rage:		
Finish		WFIS		WF1.3	WFIS	WFLS	WF1S	VF1S	WF1S	l Averag	Mil Ave	₩.	₩
Date Made Fi		7-18-61	7-21-61	7-25-61	8- 7-61	8-8-61	8- 9-61	8-13-61	8-16-61	Current Mill Average:	Cumulative Mill Average:	Mill Factor, \$	Mill Index, &

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE X (continued)
SUMMARY OF INSTITUTE AND MILL DATA FOR MILL G

Elmendorf Tear, g./sheet Cross Machine Institute Mill Max. Min. Av. Av. Diff.	424 366 3944 423 +29 456 368 4054 415 +10 432 344 3894 433 444 456 376 4064 441 +35 398 428 ,30 366 106.0
Elmendorf Tear, g./sheet In Machine Institute Mill Max. Min. Av. Av. Diff.	392 264 329 349 +20 384 280 347 337 -10 424 288 332 ⁸ 343 +11 440 296 361 ⁸ 353 - 8 342 345 + 3 325 105.2
Bursting Strength, D.S.1. Eage Institute Mill Max. Min. Av. Av. Diff.	140 105 118 116 0 139 93 115 109 -6 130 95 114 114 0 138 80 116 111 -5
Caliper, points Institute Mill Max. Min. Av. Av. Diff. Max. September, 1961	13.9 12.4 13.2 12.9 -0.3 13.5 12.6 13.0 12.6 -0.4 13.9 12.9 13.2 12.9 -0.3 13.8 12.9 13.4 13.0 -0.4 13.0 13.0 13.6 -0.4 13.0 161.5
Basis Weight, 1b. Institute Mill Max. Min. Av. Av. Diff.	44.0 42.0 43.0 43.1 +0.1 43.6 42.0 42.7 42.8 +0.1 44.0 42.0 42.9 43.2 +0.3 44.0 42.8 43.6 43.1 -0.5 43.0 43.1 10.1 43.3 99.3
Eate Mch. Made Finish No.	8-24-61 WF1S 2 8-25-61 WFDS 2 9-3-61 WFDS 2 9-3-61 WFDS 2 Current Mill Average: Cumulative Mill Average: Mill Factor, % Mill Fattor, %

 $^4\mathrm{This}$ average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

TABLE XI SUMMARY OF INSTITUTE AND MILL DATH FOR MILL H

Elmendorf Tear, g./sheet Cross Machine	Institute Mill Max. Min. Av. Av. Diff.	
Elmendorf Tear, g./sheet In Machine	Max. Min. Av. Av. Diff.	
Bursting Strength, p.s.i. gage	Institute Mill Max. Min. Av. Eiff.	1961
Caliper, points	Institute Mill Max. Min. Av. Av. Diff.	August, 196
Basis Weight, 1b.	ich. <u>Institute</u> Mill No. Max. Min. Av. Av. Diff.	

Finish

Date Made No samples submitted.

September, 1961

No samples submitted.

TABLE XII SUMMARY OF INSTITUTE AND MILL DATA FOR MILL I

heet Diff.		247	7 1	7	. 9	, ,	j 4	Ş -	50 4		147				
Elmendorf Tear, g./sheet Cross Nachine Institute Mill ax. Min. Av. Av. Diff		429	3.69	408	402	1 1/2	151	1 2	774		405				
f Tear ross M		381ª	373	361ª	353a	3394	3058	23/8	351 ^a		361	3,43	3 5		96.e
Elmendorf Tea Cross Institute Max. Min. Av.	٠	Ę	352	350	336	562	3, 6,								
HAX.		432	416	432	, ż <u>ę</u>	392	416) #	<u>\$</u> \$						
heet Diff.		۳,		- ~	1 2	+17	+62	3 0	-26		+17				
ine Mill Av.		317	, %	295	313	289	370	318	325		315				
Elmendorf Tear, g./sheet In Machine Institute Mill ax, Min, Av, Av. Difi		320a	33	293	301ª	272	306a	289	2994		298	313	9, 5	7.6	90.06
Elmendorf Tea In Mac Institute Max, Min, AV,		272	224	564 264	248	256	256	5.26					•		
Ela Max.		385	336	336	360	596	, g	336	336						
ength, ge Mill Av. Diff.		ņ	. 0	0	7	0	0	0	0		0				
Bursting Strength, P.S.1. Rage Istitute Mill Min. Av. Av. Di		Ħ	115	112	113	109	108	108	177	;	=				
Bursting Streng D.s.1. Rage Institute Min Max. Min. Av. Av		114	11.5	2112	114	109	108	108	11	:	111	109	101.8	0	
Bursting P.s.1 Institute X. Min. A		93	8	ま	95	88	8	96	89						
Max	1961	621	133	127	7.5	126	¥.1	125	758						
Diff.	August, 1961	-0.1	-0.2	-0.2	-0.1	-0.1	+0.2	0.0	0.0	ć					
Points Mill Av.		12.3	11.9	11.8	12.3	11.8	13.0	11.7	12.4	ָר ב	1.21				
티블		75.21	12.1	12.0	12.4	11.9	8.ध	11.7	12.4	Š	1	12.5	9.76	96.8	
Calipe Institute Min.		12.0	11.9	n.7	11.9	11.1	৽:ম	11.0	11.9						
Max.		12.9	12.5	12.5	13.0	12.9	13.6	12.0	13.0						
Diff.		+0,1	4.0-	†°0+	+0.2	+0.3	† *0+	+0.6	40.7	۲,0					
Basis Weight, lb.		₩.1	43.6	41.8	43.8	45.4	6: ‡	41.8	43.9	43.3					
Av.		0.44	0.1	47.4	43.6	42.1	\$.5	41.2	43.2	43.0		43.3	99.3	99.1	
Basis Institute Min. A		43.0 44.0	43.0	40.2	42.8	41.0 42.1	42.0	39.8	42.0 43.2						
Basis Wei Institute Max, Min, Av.		8.44	8.44	42.0 40.2	44.4 42.8	43.8	0.94	42.6	0.3						
Mch.		н	н	7	7	н	м	н	٦	 86	,	arage:			
Finish		A. W	E M	¥.F.	¥.F.	W.F.	W. FF	W.F.	ь. Э	ll Averaș		Mill Av	Ç49.	13P.	
Date Made		7-16-61	7-22-61	7-24-61	7-15-61	8- 1-61	8-10-61	8-8-61	8- 8-61	Current Mill Average:		Cumulative Mill Average:	Mill Factor, %	Mill Index, %	

^aThis average includes the readings for one or more specimens which tore beyond the $3/\hat{c}$ -inch limit.

TABLE XII (continued) SUREARY OF INSTITUTE AND MILL DATA FOR MILL I

١ ;		щ	-	v	н	O)				
Elmendorf Tear, g./sheet Gross Machine Institute Mill Ax. Min. Av. Av. Diff.		1 +61	0 +51	52+ 6	19+ 8	6 +62				
dorf Tear, g./ Cross Machine itute Mill in. Av. Av.		421	1 430	415	80 †	419		s,	o.	
Elmendorf Tea Cross M Institute Max. Min. Av.		, 360 ^a	379ª	3##a	347a	357	362	98.6	96.0	
Imendorf Te Cross Institute X. Min. Av		320	336	312	5 296					
[전 [전		914	432	384	392					
heet Daff.		+39	+28	439	+28	+33				
Elmendorf Tear, g./sheet In Machine Institute Mill ax, Min. Av. av. Dif.		336	338	333	327	333				
orf Tear, g In Machine tute Mi		297ª	310	567	299ª	300	312	96.2	6.06	
Elmendorf Tea In Mac Institute Max. Min. Av.		272	564	256	256					
Ela		320	376	320	320					
ength, ge Mill Av. Diff.		- 2	۲ +	-10	÷ 3	5				
Bursting Strength, P.S.1. gage nstitute Mill Min. Av. Av. Di		108	113	107	111	110				
rsting Stren P.s.i. gage Altute Mi		110	110	117	114	113	109	103.7	102.7	
Bursting S p.s.i. Institute Max. Min. Av.	-41	唟	89	95	88					
Wax I	c, 1961	132	13	133	130					
Diff.	September, 1961	+0.1	+0.1	+0.3	-0.2	+0.2				
ints Mill Av.	ωı	12.6	12.8	12.2	12.1	12.4				
Caliper, points titute Mil in. Av. Av.		12.5	12.7	11.9	11.9	12.2	12.4	4.86	8.96	
Calipe Institute		12.0	12.0	11.5	11.5					
Ins.		13.2 12.0 12.5	13.1	22.3 11.5	9.11 5.11 5.21					
Aff.		+1.0	£*0+	9.0÷	+6.8	+0.8				
t, lb. Mill Av. Diff.		43.8 +1.0	43.5 +0.7	43.1	44.0 +0.8	43.6 +0.8				
ght, 1b. Mill Av.		43.8	43.5	43.1	0.44		43.4	98.6	98.8	
ght, 1b. Mill Av.		43.8	43.5	43.1	0.44	42.8 43.6 +0.8	7.54	9.86	98.8	
1							43.4	98.6	8.86	
ght, 1b. Mill Av.		43.8	42.0 42.8 43.5	43.1	0.44	42.8		9*86	98.8	
Basis Weight, lb. Institute Mill Max. Min. Av. Av.		43.8	42.0 42.8 43.5	43.1	0.44		Cumulative Mill Average: 43.4	Mill Factor, \$	Mill Index. \$ 98.8	

 $^{
m a}$ This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIII SUMMARY OF INSTITUTE AND MILL DATA FOR MILL J

DEET.		-27	-25	-20	-58	. 30	-35	Ą	#	-30			
₩ I		¥	327	Ţ	300	305	323	326	, , , ,	327			
Cross Machine Cross Machine Itute Hill n. Av. Av.		371ª	352ª	364a	356ª	34.38	356ª	3653	3473	357	355	100.6	75.3
Elmendorf Tes Cross b Institute Max. Min. Av.	•	320	320	336	320	315	320	336	320				
Hax.		416	376	392	392	392	406	392	36				
Diff.		4-	-14	-29	-37	45	-28	-30	-38	-29			
Elmendorf Tear, g./sheet In Machine Institute Mill ax, Min, Av. Av. Diff.		293	562	289	276	272	293	284	297	268			
ir Tear, g In Machine tute Mi		305ª	3134	316ª	313ª	317	321ª	3143	335ª	317	324	97.8	8.55
Elmendorf Te In Ma Institute Max, Min, Av.		272	256	280	268	288	268	792	268				
Elu Max.		336	368	360	葉	352	368	360	392				
LIEF.		7	0	-5	÷	9	0	0	0	0			
Bursting Strength, p.s.1, gage istitute Mill Min. Av. Av. Liff		ח לל	या	115	777	711	щ	121	114	11		_	
Sting Streng D.s.i. gage itute Mil		116	771	117	109	108	113	121	71	71	114	100.0	103.6
Bursting Sp. 9.1. Institute		101	89	101	91	95	100	\$	ţĠ.				
Max	1961	130	\$	129	131	125	127	143	129				
Diff.	August, 1961	10.4	-0.7	6.0-	-0.2	-0.3	-0.2	-0.5	-c.5	4.0-			
1 -	41												
_	∢1	12.0	12.2	12.1	11.7	12.4	12.9	12.4	75.4	22.3			
r, points Mill Av. Av.	¥.	12.4 12.0	12.9 12.2	13.0 12.1	11.9 11.7	12.7 12.4		12.9 12.4			12.7	00.00	8,00.
per, points	4I	12.4			11.9	12.7	13.1		12.9	12.3	12.7	100.0	100.8
_	ē.		12.9	13.0				12.9		12.3	12.7	100.0	100.8
Caliper, points Institute Mill Max. Min. Av. Av.	₹	५.टा ०.टा	12.5 12.9	12.8 13.0	9.11. 6.11	12.1 12.7	12.0 13.1	12.4 12.9	12.5 12.9	12.3	12.7	100.0	100.8
Caliper, points Institute Mill Mil. Max. Min. Av. Av.	Ÿ.	40.3 12.8 12.0 12.4	13.2 12.5 12.9	13.1 12.8 13.0	12.2 II.3 II.9	13.1 12.1 12.7	.0 13.5 12.0 13.1	13.2 12.4 12.9	13.1 12.5 12.9	12.7 12.3	7.2.7	100.0	100.8
leight, lb. Caliper, points Mill Institute Mill Av. Av. Diff. Max. Min. Av. Av. Av.	Ÿ.	43.2 +0.3 12.8 12.0 12.4	43.1 -0.1 13.2 12.5 12.9	43.0 -0.2 13.1 12.8 13.0	41.6 -6.6 12.2 11.3 11.9	41.8 .0.2 13.1 12.1 12.7	42.8 0.0 13.5 12.0 13.1	43.7 -0.5 13.2 12.4 12.9	43.2 -6.5 13.1 12.5 12.9	42.8 +0.3 12.7 12.3			
leight, lb. Caliper, points Mill Institute Mill Av. Av. Diff. Max. Min. Av. Av. Av.	Ÿ.	43.2 +0.3 12.8 12.0 12.4	43.2 43.1 -0.1 13.2 12.5 12.9	42.8 43.0 -0.2 13.1 12.8 13.0	41.0 41.6 +6.6 12.2 11.3 11.9	41.6 41.8 +0.2 13.1 12.1 12.7	42,8 42,8 0.0 13,5 12,0 13,1	43.2 43.7 -0.5 13.2 12.4 12.9	43.2 -6.5 13.1 12.5 12.9	12.7 12.3	43.5	97.7	97.9 100.8
leight, lb. Caliper, points Mill Institute Mill Av. Av. Diff. Max. Min. Av. Av. Av.	4)	43.2 +0.3 12.8 12.0 12.4	42.6 43.2 43.1 -0.1 13.2 12.5 12.9	42.8 43.0 -0.2 13.1 12.8 13.0	41.0 41.6 +6.6 12.2 11.3 11.9	41.6 41.8 +0.2 13.1 12.1 12.7	42,8 42,8 0.0 13,5 12,0 13,1	43.2 43.7 -0.5 13.2 12.4 12.9	43.2 -6.5 13.1 12.5 12.9	42.8 +0.3 12.7 12.3			
Basis Weight, 1b. Institute Mill Institute Mill Nax, Min. Av. Av. Diff. Nax, Min. Av. Av.	4)	40.3 12.8 12.0 12.4	43.2 43.1 -0.1 13.2 12.5 12.9	43.0 -0.2 13.1 12.8 13.0	41.6 -6.6 12.2 11.3 11.9	41.8 .0.2 13.1 12.1 12.7	42.8 0.0 13.5 12.0 13.1	43.7 -0.5 13.2 12.4 12.9	-0.5 13.1 12.5 12.9	42.5 42.8 +0.3 12.7 12.3	43.5		
Mch. Basis Weight, 1b. Caliper, points No. Max. Min. Av. Av. Diff. Max. Min. Av. Av.	4	- 441.0 42.0 42.9 43.2 +0.3 12.8 12.0 12.4	- 43.6 42.6 43.2 43.1 -0.1 13.2 12.5 12.9	- 43.4 42.0 42.8 43.0 -0.2 13.1 12.8 13.0	- 41.8 40.2 41.0 41.6 .6.6 12.2 11.3 11.9	- 42.0 40.4 41.6 41.8 +0.2 13.1 12.1 12.7	- 44.0 41.8 42.8 42.8 0.0 13.5 12.0 13.1	- 43.8 42.4 43.2 43.7 -0.5 13.2 12.4 12.9	- 43.6 42.6 43.2 -6.5 13.1 12.5 12.9	42.5 42.8 +0.3 12.7 12.3	43.5	7.79	6.79
Basis Weight, 1b. Institute Mill Institute Mill Nax, Min. Av. Av. Diff. Nax, Min. Av. Av.	V V	43.2 +0.3 12.8 12.0 12.4	42.6 43.2 43.1 -0.1 13.2 12.5 12.9	43.4 42.0 42.8 43.0 -0.2 13.1 12.8 13.0	41.8 40.2 41.0 41.6 +6.6 12.2 11.3 11.9	41.6 41.8 +0.2 13.1 12.1 12.7	44.0 41.8 42.8 42.8 0.0 13.5 12.0 13.1	43.8 42.4 43.2 43.7 -0.5 13.2 12.4 12.9	43.0 42.0 42.6 43.2 -0.5 13.1 12.5 12.9	42.8 +0.3 12.7 12.3			

^aThis average includes the readings for one or more specimens which tore beyond the 3/5-inch limit, Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIII (continued)
SUFARRY OF INSTITUTE AND MILL EATA FOR MILL J

Elmandorf Tear, g./sheet Gross Fachine Institute Mill ex. Fin. Kv. kv. Diff.		343 -20	321 -12	348 -27	351 -12	341 -17				
dorf Tear, g./s Cross Machine Situte Mill in. Av. Av.		363ª	3334	325ª	363ª	35ē	555	31 0.5	5.5	
Elmendorf Tea Cross : Institute Max. Ein. Av.		328	296	ķ	336					
Kax I		384	358	007	400					
Diff.		757	-26	き	-38	Ę				
g./s? ne mili mili		265	281	308	291	291				
4 E		309	307ª	3443	329ª	322	324	7.66	97.6	
Slmendorf Tea In Mac Institute Max. Min. Av.		272	564	280	272					
Slms Max.		336	368	416	376					
ength, ge Mill Av. Diff.		0	٠	6	75	7				
Bursting Strength, D.S.1. gage Institute Mill Nin. Av. Av. D.		116	777	775	977	114				
rsting Strengti D.s.1. gage citute Mill in. Av. Av.		116	117	121	311	118	114	103.5	107.3	
Bursting S D.s.1. Institute Max. Min. Av.		102	8	66	91					
Max	1961	135	138	146	136					
Diff.	September, 1961	-0.3	-0.3	-0.3	0.	-0.3				
Av.	04	12.3	12.2	12.9	12.9	12.6				
Caliper, points titute Mill in, Av. Av.		12.6	12.5	13.2	13.2	6.51	12.7	101.6	102.4	
Calipe Institute . Win.		12.2	12,0	12.9	12.9			,t	М	
Cally Institut Max, Min,		13.0	13.0	14.0	13.7					
Diff.		7,0.	40.9	₹.0+	4.0-	9.0-				
			43.7	43.5	43.3	43.5				
Basis Weight, 1b. Litute Mill Un. Av. Av.		44.0 40.2 43.0 43.4	42.2 42.8	43.0	43.6 42.2 42.9 43.3	42.9	43.4	96.8	1.66	
Basis we Institute Min. Av		2.04	5.2	6.54	5.2					
Basis Institut		7 0.44	43.6	7 7.67	13.6 4					
1 12-		-		_						
Meh. No.		•	1	. 1	•	 9 50	era ge			
Mch. Pinish No.		, E	6. E	W.F.	(π, , , , , , , , , , , , , , , , , , ,	Current Kill Average:	Cumulative Will Average:	Mill Factor, 8	Mill Index, (

^anis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

TABLE XIV

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL K

Slmendorf Pear, g. sheet Cross Machine Institute Mili Nax. Mir. Av. Av. Diff.		352ª 367 340ª 355	700 312 348a 347 - 1	346 352 - 4	गरह :	101.2 93.3		•	304 337 320	250 250 250	328 3654	365 ^a 556 -	;	11- 64 700	ŧ.	107.6 96.0
Slmendorf Tear, g./sheet In Machine Institute Max. Min. Av. Av. Diff.		352 240 293 287 - 6 320 264 2958 287 - 8 344 248 2008 223 24	288 313 275	299 280 -19	. 283	5.06		336 256 299 25	246 298 278	248 292 283	384 260 318 ⁴ 265 -33	336 240 299 ^a 272 -27	30 757 105	j	, 30 L	91.2
Bursting Strength, D.s.1. Rage Institute Mill Max. Min. Av. Av. Ilff.	1961	129 97 113 108 -5 120 88 107 109 +2 132 88 111 109 -2	131 90 112 109 -3	111 1092	101.8	100.9	1961	129 95 111 107 -4	127 100 113 110 -3	7- 011 711 % 251	0 011 011 98 110	132 91 110 109 -1	112 109 -3	109	102,8	101.8
Caliper, points Institute Hill Max. Min. Av. Av. Diff.	August, 1961	14.2 13.0 13.7 13.1 -0.6 13.0 12.0 12.4 11.9 -0.5 13.0 11.5 12.3 12.0 -0.3	14.7 13.0 13.7 13.1 -0.6	13.1 12.5 -0.6	104.0	104.0	September, 1961	13.2 13.0 12.4 12.0 -0.4	14.1 13.0 13.7 13.1 -0.6	14.1 13.1 13.8 13.1 -0.7	14.0 12.6 13.5 12.8 -0.7	14.0 12.9 13.3 12.8 -0.5	13.3 12.7 -0.6	12.6	105.6	105.6
Basis Weight, 1b. Institute Mill Max. Min. Av. Av. Diff.		44.6 42.0 43.5 43.2 -0.3 45.0 42.0 43.5 43.2 -0.3	44.2 41.6 42.8 42.8 0.0	43.2 43.1 -0.1 43.6	99.1	99.5		0.0 4.54 43.4 6.0	9,0+ 0,04 42,4 43.0 +0.6	44.0 41.0 42.4 42.7 .6.3	42.0 42.6 42.7	43.6 41.0 42.2 42.3 +0.1	42.6 42.8 +0.2	43.6	5.79	4.86
Date Mch. Made Finish No.		7-3-61 W.F. 1 7-14-61 W.F. 1 7-24-61 W.F. 1	8- 1-61 W.F. 1	Current Mill Average: Cumulative Mill Average:	Mill Factor, &	Mill Index, §		8-8-51 W.F. 1	8-11-61 4.5. 1			7- 0-01 A.F.	Current Mill Average:	Cumulative Mill Average:	Mill Factor, §	Mill Index, % 98

athis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit. Note: All "current mill average" data are cilculated from the totals of the individual readings.

TABLE XV SUMMARY OF INSTITUTE AND MILL DATA FOR MILL L

Elmendorf Tear, g./sheet In Machine Cross Machine Cross Machine Cross Machine Listitute Max. Min. Av. Av. Diff. Max. Hin. Av. P. Diff.		3ª 325 +22 368 266 333ª 395 +62	3 325 +22 333 395 +62	}	;	91.5		77 304 -27 368 336 350 ^a 378 +28	383 327 -56 456 312 401ª 384 -17	283 335 -52 376 328 345 ^a 363 ±38	277ª 306 -29 376 312 346ª 365 -19	305 316 +13 360 378 +18	393 333	100.7 108.1	96.8
1 15		352 264 303ª	303	•	•	6		304 256 277	926 844	336 256 28	312 240	Σ. 3.	36		
Bursting Strength, P.S.1. Rage Institute Will Wax. Min. Av. Av. Diff.	<u>1961</u>	140 99 121 129 + 8	121 129 + 8	•	-	110.0	r, 1 <u>961</u>	135 102 121 125 + 4	139 103 121 131 +10	141 105 124 132 + 8	135 100 116 117 + 1	121 126 + 5	121	100.0	110.0
Callper, points Institute Mill Hax, Min. Av. Av. Diff.	August, 1961	13.6 12.8 13.1 13.1 0.0	13.1 13.1 0.0		-	104.0	September, 1961	14.0 13.1 13.5 13.3 -0.2	14.0 13.1 13.6 13.5 -0.1	13.8 12.9 13.1 13.0 -0.1	14.0 12.4 13.3 13.2 -0.1	13.4 13.3 -0.1	13.1	102.3	106.3
Basis Weight, 1b. Institute Mill Max. Min. Av. Av. Diff.		43.8 41.6 42.6 43.5 +0.9	42.6 43.5 +0.9	-		98.2		44.0 42.2 43.3 43.4 +0.1	44.0 42.2 43.5 43.6 +0.1	43.8 42.4 42.8 43.5 +0.7	43.0 42,0 42.3 42.9 +0.6	4°0- 4°E4 0°E4	42.6	100.9	ç
Date Moh. Made Finish No.		8- 1-61	Current Mill Average:	Cumulative Mill Average:	Mill Factor, &	Mill Index, %		8-15-51	8-23-61	8-28-51	8-30-61	Current Mill Average:	Cumulative Mill Average:	Mill Factor, %	A

 $^{
m a}$ This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVI

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL M

Elmendorf Tear, g./sheet Cross Machine Institute Mill Max. Min. Av. Av. Diff.		416 352 383ª 389 + 6	363 389 + 6	382	100.3	102.7
Elmendorf Tear, g./sheet In Machine Institute Max. Min. Av. Av. Eiff.		376 296 332a 327 - 5	332 327 - 5	340	94.6	100.3
Bursting Strength, D.S.1. gage Institute Mill Max. Min. Av. Av. Diff.	1961	131 91 112 113 +1	1, (1, 21,	103	108.7	101.8
Caliper, points Institute Mill Max, Min, Av. Av. Diff.	August, 1961	12.6 10.3 11.7 11.8 +0.1	1.0+ 8.11 7.11	12.6	92.9	92.9
Basis Welght, 15. Institute Mill Max, Min. Av. Av. Diff.		42.6 40,2 41,8 42.1 +0,3	41.8 42.1 -0.3	42.9	7.26	96.3
Date Made Finish No.		7-20-61 S.F. 7	Current Mill Average:	Cumulative Mill Average:	Mill Factor, %	Mil Index, &

September, 1961

No samples submitted.

aThis average includes the readings for one or more specimens which tore beyond the 3/5-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVII

SUPPLAKY OF INSTITUTE AND MILL DATA FOR MILL N

Elmendorf Tear, g./sheet Cross Machine Institute Hill Max. Min. Av. Av. Diff.		376 272 329 ^a 325 - 4	352 304 327 ^a 326 - 1	368 296 329 ^a 325 - 4	384 272 315 ^a 326 +11	392 328 352 ^a 324 - 28	352 280 321 ^a 325 + 4	329 325 - 4	333	8.8	88.2
Elmendorf Tear, g./sheet In Machine Institute Mill Max. Min. Av. Av. Diff.		336 240 277ª 240 -37	328 240 285 240 45	320 208 269 242 -27	320 256 282ª 239 43	320 240 267 242 -25	360 240 290 ^a 239 -51	278 240 -35	289	96.2	0.48
Bursting Strength, D.s.1. gage Institute Mill Hax. Min. Av. Av. Liff,	1961	142 80 113 115 +2	132 91 117 118 +1	134 92 114 116 +2	135 85 114 116 +2	134 90 114 116 +2	140 88 115 115 0	115 116 +1	113	101.8	104.5
Caliper, points Institute Mill Max. Min. Av. Av. Diff.	August, 1961	12.8 11.9 12.1 12.0 -0.1	12.7 12.0 12.2 12.0 -0.2	12.5 11.6 12.1 12.0 -0.11	12.5 11.9 12.1 12.0 -0.1	13.3 12.2 12.9 12.0 -0.9	12.4 11.4 12.0 12.0 0.0	12.2 12.0 -0.2	12.5	9.76	8*96
Basis Weight, lb. Institute Max. Min. Av. Av. Diff.		42.6 41.4 42.0 41.9 -0.1	42.4 41.6 42.2 42.0 -0.2	42.2 40.4 41.7 41.9 +0.2	42.2 41.4 41.9 42.0 +0.1	43.6 41.8 42.6 42.0 -0.6	42.6 41.2 42.0 41.9 -0.1	42.1 42.0 -0.1	42.6	8.86	0.79
Date Mch. Made Finish No.		7-25-61	7-28-61	8- 1-61	8- 4-61	8-7-61	8-10-61	Current Mill Average:	Cumulative Mill Average:	Mill Factor, %	Mill Index, %

September, 1961

No samples submitted.

^aThis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit. Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XVIII

SUPERARY OF INSTITUTE AND MILL DATA FOR MILL O

biff.		5	.10	1 23	-59	-21	.13	디	242	+19			
ži l		385	365	4.22	428	去	42ê	425	£#3	614			
Cross Machine itute Mill		369a	375ª	417a	399ª	413a	415ª	413ª	401a	004	377	106.1	107.2
Elmendorf Tea Cross M Institute Max. Min. Av.		320	336 3	384. 4	186	368 4	352 4	376 4	352 4	-37		۲,	4
Elme Max.		416	400	480	416	1 5	472	034	794				
Diff.		۲.	4	ω	~	:12	. 14	F7	21:	2 +			
/s/ 11		311	ű	3,50	337	3#3	359	3,5	359	339			
orf Tear, g In Yachine tute Mi		312	309	348	33#	332	345	333a	3#7	332	320	103.8	100.3
Elmendorf Tea In Xac Institute Max, Min, Av,		272	256	272	280	272	272	596	536				
Elme Max.		368	360	448	004	416	914	366	35				
olff.		?	4	,	7	ς.	4	٥	7	7			
Bursting Strength, D.S.1. gage Istitute Mill Min. Av. Av. Diff.		108	109	ŤĪ.	† 1	116	114	Ħ	109	2112			
rsting Strengt D.S.i. gage itute Mill in. Av. Av.		110	106	113	1115	119	117	117	110	m	113	100.0	102.7
Bursting S D.S.1. Institute Max. Min. Av.		99	88	86	96	96	95	88	.77				
Ag.	1961	921	128	130	130	146	138	136	139				
Diff.	August, 1961	-0.3	9.0-	-0.3	-0.1	9.0-	-0.5	-0.3	4.0-	7.0-			
1													
ints Mill Av.		11.6	11.5	11.7	11.8	12.4	12.4	12.8	12.7	12.1			
r, poi		9.11 9.11	12.1 11.5	12.0 11.7	11.9 11.8	13.0 12.4	५ .51 6 .51	13.1 12.8	13.1 12.7	12.5 12.1	12.5	0.001	99.2
r, poi		11.9	12.1	0.21	9.11	13.0	12.9	13.1	13.1		12.5	100.0	99.2
Caliger, points Institute Mill Max. Kin. Av. Av.											12.5	100.0	99.2
Caliper, poin Institute Max. Min. Av.		9.11 1.11 8.21	1.5 22.1	11.5 12.0	9.11 7.11	12.4 13.0	12.2 12.9	12.7 13.1	1.81 8.31		12.5	100.0	99.5
Caliper, bold Institute Max. Min. Av.		-0.4 12.8 11.1	-0.5 12.9 11.5 12.1	12.2 11.5 12.0	12.2 11.7 11.9	13.2 12.4 13.0	13.2 12.2 12.9	13.5 12.7 13.1	13.4 12.3 13.1	-0.6	12.5	100.0	99.2
Caliper, bold Institute Max. Min. Av.		42.1 -0.4 12.8 11.1 11.9	42.0 -0.5 12.9 11.5 12.1	43.2 -0.5 12.2 11.5 12.0	43.2 -0.3 12.2 11.7 11.9	43.9 -0.9 13.2 12.4 13.0	43.8 -1.0 13.2 12.2 12.9	43.9 -0.6 13.5 12.7 13.1	13.4 12.3 13.1	43.3 -0.6 12.5			
Av. Av. Diff. Max. Kin. Av.		42.1 -0.4 12.8 11.1 11.9	42.0 -0.5 12.9 11.5 12.1	43.7 43.2 -0.5 12.2 11.5 12.0	43.2 -0.3 12.2 11.7 11.9	43.9 -0.9 13.2 12.4 13.0	43.8 -1.0 13.2 12.2 12.9	43.9 -0.6 13.5 12.7 13.1	13.4 12.3 13.1	-0.6	43.6	100.7	101.2 99.2
Av. Av. Diff. Max. Kin. Av.		42.1 -0.4 12.8 11.1 11.9	41.8 42.5 42.0 -0.5 12.9 11.5 12.1	42.6 43.7 43.2 -0.5 12.2 11.5 12.0	42.4 43.5 43.2 -0.3 12.2 11.7 11.9	44.0 44.8 43.9 -0.9 13.2 12.4 13.0	13.2 12.2 12.9	43.9 -0.6 13.5 12.7 13.1	44.0 44.7 44.0 -0.7 13.4 12.3 13.1	43.3 -0.6 12.5			
Basis Weignt, 1b. Caliper, polifications Mili Institute Main. Av. Av. Av. Diff. Max. Min. Av. Av.		43.6 42.0 42.5 42.1 -0.4 12.8 11.1 11.9	43.6 41.8 42.5 42.0 -0.5 12.9 11.5 12.1	44.0 42.6 43.7 43.2 -0.5 12.2 11.5 12.0	44.2 42.4 43.5 43.2 -0.3 12.2 11.7 11.9	45.4 44.0 44.8 43.9 -0.9 13.2 12.4 13.0	45.6 44.2 44.8 43.8 -1.0 13.2 12.2 12.9	45.6 43.8 44.5 43.9 -0.6 13.5 12.7 13.1	45.4 44.0 44.7 44.0 -0.7 13.4 12.3 13.1	43.9 43.3 -0.6 12.5	43.6		
Hasis Height, 1b. Caliper, bold institute No. Max. Hin. Av. Av. Diff. Max. Hin. Av.		2 43.6 42.0 42.5 42.1 -0.4 12.8 11.1 11.9	41.8 42.5 42.0 -0.5 12.9 11.5 12.1	2 44.0 42.6 43.7 43.2 -0.5 12.2 11.5 12.0	2 44.2 42.4 43.5 43.2 -0.3 12.2 11.7 11.9	2 45.4 44.0 44.8 43.9 -0.9 13.2 12.4 13.0	2 45.6 44.2 44.8 43.8 -1.0 13.2 12.2 12.9	2 45.6 43.8 44.5 43.9 -0.6 13.5 12.7 13.1	2 45.4 44.0 444.7 444.0 -0.7 13.4 12.3 13.1	43.9 43.3 -0.6 12.5	43.6		
Basis Weignt, 1b. Caliper, polifications Mili Institute Main. Av. Av. Av. Diff. Max. Min. Av. Av.		43.6 42.0 42.5 42.1 -0.4 12.8 11.1 11.9	43.6 41.8 42.5 42.0 -0.5 12.9 11.5 12.1	44.0 42.6 43.7 43.2 -0.5 12.2 11.5 12.0	44.2 42.4 43.5 43.2 -0.3 12.2 11.7 11.9	45.4 44.0 44.8 43.9 -0.9 13.2 12.4 13.0	45.6 44.2 44.8 43.8 -1.0 13.2 12.2 12.9	45.6 43.8 44.5 43.9 -0.6 13.5 12.7 13.1	45.4 44.0 44.7 44.0 -0.7 13.4 12.3 13.1	43.3 -0.6 12.5			

^aThis average includes the readings for one or more spectmens which tore beyond the 3/5-inch limit. Note: All "current mill average" data are calculated from the totals of the indivioual readings.

TABLE XVIII (continued)
SUMMARY OF INSTITUTE AND MILL DATA FOR MILL 0

neet Diff.		4	9 +	12₁	+25		+23				
g./sheenine		430	426	717	777		421 +				
21		389ª	422ª	393ª	387ª		398	379	105.0	107.0	
Slmendorf Tear Cross Na Institute		360	768	, ,	, ,	•	6	~	7	н	
Share Share		435	964	964	454						
beet Liff.		6 -	+22	7 +	. 3		+ 3				
g./sh Mill Av.		345	349	339	334		345				
Elmendorf Tear, g./sheet In Machine Institute Mill Ax. Min. Av. Eiff		35	327	337	337		339	320	105.9	102.7	
Elmendorf Tea In Mac Institute Max. Min. Av.		56 4	280	ಕ್ಷ	280						
Max.		424	392	392	400						
ength, ge Mill Av. Diff.		٠ ٢	9 -	₹	11-		. 2				
Fa E		114	113	щ	112		113		•		
Bursting Stren O.s.1. gage Institute Mi Max. Min. Av. Av		. 121	119	117	123		720	113	106.2	109.1	
Bursting 0.8.1 Institute x. Min. Av	겖	103	105	8	101						
<u> </u>	er, 19	139	130	140	149						
Diff.	September, 1961	-0.2	-0.2	-0.1	-0.2		-0.2				
AV.	V41	12.0	12.0	12.4	12.4		12.2				
Caliper, points titute Mil Min. Av. Av.		12.2	12.2	12.5	12.6		77.71	12.5	99.5	4.36	
Calipe Institute Min.		11.9	7.11	12.0	१७:० १५:६						
Caliber, Institute Max. Min. Av.		12.7	12.8	13.0	13.1						
Diff.		+0.2	-0.1	+6.3	+0.8	,	+0.3				
.1		43.6 +0.2	43.7	#	 ₹	9	43.9 +0.3				
Basis Weight, lb. titute Mill iin. Av. Av.		44.0 42.6 43.4	43.8	43.8	43.3	9	43.6	43.7	8.66	100.7	
Basis Institute Min. A		42.6	45.4	43.4	42.8					7	
Basis Wei Institute Hax, Min, Av.		0.44	45.6 42.4 43.8	44.0 43.4 43.8	44.0 42.8 43.3						
Mch.		2	2	2	0		ge:	erage:			
Finish		Y.F.	W.F.	W.F.	W.F.		il Avera	Mill Av	ř.	₩	
Date Made		8-19-61	8-19-61	8-29-61	8-29-61	į	Current Mill Average:	Cumulative Mill Average:	Mill Factor, 4	Mill Index, %	

^aThis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

TABLE XIX

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL P

Elmendorf Tear, g./sheet Gross Machine Institute Mill ax. Min. Av. Av. Diff.		427 - 4	397 -34	403 -12	423 -16	428 +13	404 -15	436 +17	417 - 8					415 - 2	424 +21	6 + 614				
orf Tear, g./; Cross Machine itute Mill n. Av. Av.											₹.	6					o.	100.2	2.011	
Elmendorf Tea Cross M Institute Max. Min. Av.		0 431ª	2 431ª	8 415ª	o 439ª	0 417ª	419	614 o	425	404	104.4	113.9		368 417ª	360 403ª	410	409	ŏţ	Ä	
llmendorf T Cross Institute	•	460 400	₩8 392	472 368	450 400	004 954	796	007 B#H						456 36	432 36					
H 12		77	3	14	47	7,	1 5	₹						#	t					
eet Diff.		-31	80	*	-36	-28	-	6	-21					-19	-18	-18				
Elmendorf Tear, g./sheet In Machine Institute Mill ax, Min, Av. Av. Diff		365	369	3#5	369	327	360	356	356					331	345	336				
Tear Machi		396ª	377ª	379ª	405ª	355	361ª	365 ^a	377	26	103.6	113.9		350ª	363ª	356	366	97.3	107.9	
Elmendorf Tea In Mac Institute Max, Min, Av.		328	36	328	336	320	320	328						36	328					
Elme Max.		480	432	435	528	392	392	432						8448	1 7217					
ength, ge Mill Av. Diff.		٠-	7	+5	٩	7	4	4	7					-5	5	4				
Bursting Strength, p.s.i. gage stitute Mill Min. Av. Av. D		107	106	105	109	110	109	107	107					114	111	717				
sting St. P.S.1. E itute n. Av.		77	76 76	103	777	109	211	Ħ	109	110	1.66	99.1		116	116	116	109	106.4	105.5	
Bursting S p.s.1. Institute Max. Min. Av.		8	82	8	8	8	82	88						95	95					
Max.	1961	128	124	139	128	125	133	128					r. 1961	131	129					
Diff.	August, 1961	-0.2	-0.3	-0.1	7.0-	-0.2	4.0-	-0.3	6.9				September, 1961	-0.3	-0.3	-0.3				
ints Mill Av.		11.9	11.8	9.11	n.8	11.5	11.8	12.1	11.8					11.5	12.1	11.8				
Caliper, points titute Mill in, Av. Av.		12.1	ा:य	11.7	2.21	11.7	12.2	75.75	17.71	12.0	100,8	0.96		11.8	12.4	12.1	12.0	100.8	96.0	
Calipe Institute		11.3	11.5	п.3	11.7	11.1	9. tt	11.5			-			11.2	11.7			.,		
Ins Max. N		12.9	. 9.टा	12.2	. 6.21	12.4	12.5	13.2						12.5	13.2					
	•	5.				9.	9.	٠.	.					9.0-	-0.1	-0.3				
Dif		9	-0.5	-0.3	9	9	9	o	٩					۲	۲	ĭ				
AV.		•					m							ω	0	6				
ā		43.3	42.3	47.4	42.5	42.3	42.8	42.1	42.4					41.8	42.0	41.9				
s Weigh			42.3	4.14 6.14	42.5	42.9 42.3	43.4	42.1		43.3	98.8	9.86				42.2 41.9	43.2	27.7	5.76	
Basis Weight, lb.			42.3	4.14 6.14	42.0 42.9 42.5	42.9 42.3	4.64 4.54	41,4 42,8 42,1	42.4	43.3	8.86	9.86		41.8 42.4			43.2	27.7	5.76	
Basis Weighi Institute Max. Min. Av.		44.0 43.0 43.5 43.3		47.4		42.3		42.1	42.4	43.3	98.8	9.86			43.2 40.2 42.1 42.0		43.2	2.7.7	5.76	
[2] X			42.3	40.2 41.7 41.4	42.0 42.9 42.5	42.9 42.3	4.64 4.54	41,4 42,8 42,1	42.8 42.4		98.8	9*86		41.8 42.4		7.24		2.72	5.76	
Mch. Ins.		- 44.0 43.0 43.5	. 44.0 42.0 42.8 42.3	- 42.8 40.2 41.7 41.4	- 43.8 42.0 42.9 42.5	- 44.4 42.0 42.9 42.3	4.64 4.54 4.44	- 43,6 41,4 42,8 42,1	42.8 42.4					43.8 41.8 42.4	43.2 40.2 42.1	7.24				
Insi Max, M			42.3	40.2 41.7 41.4	42.0 42.9 42.5	42.9 42.3	4.64 4.54	41,4 42,8 42,1	42.4	Cumulative Mill Average: 43.3	Mill Factor, \$ 98.8	Mill Index, \$ 98.6		43.8 41.8 42.4	43.2 40.2 42.1		Cumulative Mill Average: 43.2	Mill Factor, \$ 97.7	Mill Index, 4	

^anhis average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

Note: 411 "current mill average" data are calculated from the totals of the individual readings.

TABLE XX SUPMARY OF INSTITUTE AND MILL DATA FOR MILL Q

Sheet Diff.		0	+26	+38	45	+30	+33	+21	45	+30			
Kthine Mill Av.		355	381	387	386	396	377	ž	386	379		~	50
Elmendorf Tear, g./sheet Cross Machine Institute Mill Ax. Min. Av. Dif.		355ª	355ª	349ª	3419	366ª	3.Fr	3439	341ª	346	355	98.3	93.6
Elmendorf Tea Cross M Institute Max. Min. Av.		320	328	320	ğ	328	562	ğ	36				
g lik		400	žę X	376	æ Æ	400	蒸	424	裁			,	
Diff.		-21	6	71,+	97	- 2	+	ą	4 2	٦,			
g./st		322	309	319	354	333	301	374	303	315			
4 원		3439	300	307ª	334ª	305ª	2 <i>97</i> ª	325ª	294a	313	354	9.96	9. 1 8
Elmendorf Tea In Mac Institute Max, Min, Av.		320	248	272	36	272	248	288	1 97				
Elm Max.		335	336	336	376	352	320	360	320				
		+ 2	- 3	~	۴ ع	2 +	2	-70	. 3	- 1			
Bursting Strength, D.3.1. gage 1stitute Mill Min. Av. Av. Diff.		110	720	31	109	211	ů	103	108	77			
rsting Stren P.9.1. gage itute Mi n. Av. Av		108	123	977	106	717	77	711	Ħ	th 3	109	103.7	102.7
Bursting S P.3.1. Institute Max. Min. Av.		8	ğ	82	8	85	8	101	88				
Max.	1961	124	148	135	इ य	141	521	133	133				
	13			_			N	4	<u>.</u>				
Diff	Augus	+0.1	-0.3	-0.1	-0.2	-0.2	-0.2	0.	+°0-	-0.2			
nts Mill Av. Diff.	August, 1961	13.2 +0.1	12.8 -0.3	13.2 -0.1	13.0 -0.2	13.6 -0.2	13.4 -0.	12.8 -0.1	12.8 -0.	13.1 -0.2			
AV. AV.	Augus	13.2	8.ध	13.2	13.0	13.6	13.4	12.8	12.8	13.1	13.5	98.5	. 9*50
AV. AV.	Augus	13.1 13.2	13.1 12.8	13.3 13.2	13.2 13.0	13.8 13.6	13.6 13.4	8.च ६.च	13.2 12.8		13.5	98.5	105.6
Caliper, points stitute Mill Min, Av. Av.	Augus	13.1 13.2	12.6 13.1 12.8	13.0 13.3 13.2	12.7 13.2 13.0	13.4 13.8 13.6	12.8 13.6 13.4	12.2 12.9 12.8	8.21 2.81 8.21	13.1	13.5	98.5	105.6
Caliper, points Institute Mill Max. Min. Av. Av.	Augus	13.7 12.8 13.1 13.2	8.21 1.61 3.21 6.61	13.9 13.0 13.3 13.2	13.9 12.7 13.2 13.0	14.0 13.4 13.8 13.6	4.61 3.61 13.4	13.5 12.2 12.9 12.8	13.7 12.9 13.2 12.8	13.3 13.1	13.5	98.5	105.6
Caliper, points Institute Mill Max. Min. Av. Av.	Augus	13.7 12.8 13.1 13.2	+0.8 13.3 12.6 13.1 12.8	+0.7 13.9 13.0 13.3 13.2	+1.1 13.9 12.7 13.2 13.0	+0,4 14.0 13.4 13.8 13.6	+0.9 14.4 12.8 13.6 13.4	+0.7 13.5 12.2 12.9 12.8	-0.2 13.7 12.9 13.2 12.8	+0.5 13.3 13.1	13.5	98.5	105.6
Caliper, points Institute Mill Max. Min. Av. Av.	Aurus	42.8 +0.3 - 13.7 12.8 13.1 13.2	8.21 1.61 3.21 6.61	13.9 13.0 13.3 13.2	13.9 12.7 13.2 13.0	14.0 13.4 13.8 13.6	4.61 3.61 13.4	13.5 12.2 12.9 12.8	13.7 12.9 13.2 12.8	13.3 13.1	13.5	98.5	105.6
ght, 1b. Caliber, points Mill Institute Mill Av. Diff. Max. Min. Av. Av.	Aurus	42.8 +0.3 - 13.7 12.8 13.1 13.2	43.0 +0.8 13.3 12.6 13.1 12.8	42.0 42.7 +0.7 13.9 13.0 13.3 13.2	+1.1 13.9 12.7 13.2 13.0	42.8 43.2 +0.4 14.0 13.4 13.8 13.6	42.8 43.7 +0.9 14.4 12.8 13.6 13.4	+0.7 13.5 12.2 12.9 12.8	41.7 -0.2 13.7 12.9 13.2 12.8	+0.5 13.3 13.1	42.9 13.5	98.4	97.2 105.6
ght, 1b. Caliber, points Mill Institute Mill Av. Diff. Max. Min. Av. Av.	Aurus	42.8 +0.3 - 13.7 12.8 13.1 13.2	43.0 +0.8 13.3 12.6 13.1 12.8	41.8 42.0 42.7 +0.7 13.9 13.0 13.3 13.2	41.7 42.8 +1.1 13.9 12.7 13.2 13.0	42.8 43.2 +0.4 14.0 13.4 13.8 13.6	42.8 43.7 +0.9 14.4 12.8 13.6 13.4	41.6 42.3 +0.7 13.5 12.2 12.9 12.8	41.7 -0.2 13.7 12.9 13.2 12.8	42.7 +0.5 13.3 13.1			
Caliper, points Institute Mill Max. Min. Av. Av.	AURUS	13.7 12.8 13.1 13.2	+0.8 13.3 12.6 13.1 12.8	42.7 +0.7 13.9 13.0 13.3 13.2	42.8 +1.1 13.9 12.7 13.2 13.0	43.2 +0.4 14.0 13.4 13.8 13.6	43.7 +0.9 14.4 12.8 13.6 13.4	42.3 +0.7 13.5 12.2 12.9 12.8	-0.2 13.7 12.9 13.2 12.8	42.7 +0.5 13.3 13.1			
ght, 1b. Caliber, points Mill Institute Mill Av. Diff. Max. Min. Av. Av.	Aurus	42.8 +0.3 - 13.7 12.8 13.1 13.2	43.0 +0.8 13.3 12.6 13.1 12.8	41.8 42.0 42.7 +0.7 13.9 13.0 13.3 13.2	41.7 42.8 +1.1 13.9 12.7 13.2 13.0	42.8 43.2 +0.4 14.0 13.4 13.8 13.6	42.8 43.7 +0.9 14.4 12.8 13.6 13.4	41.6 42.3 +0.7 13.5 12.2 12.9 12.8	41.7 -0.2 13.7 12.9 13.2 12.8	42.2 42.7 +0.5 13.3 13.1	42.9		
Basis Weight, 1b. Caliber, points Institute Mil Institute Mill Max. Min. Av. Av. Diff. Max. Min. Av. Av.	Aurus	43,4 41,6 42,5 42,8 +0,3 13,7 12,8 13,1 13,2	42.6 41.8 42.2 43.0 +0.8 13.3 12.6 13.1 12.8	42.2 41.8 42.0 42.7 +0.7 13.9 13.0 13.3 13.2	42.0 40.8 41.7 42.8 +1.1 13.9 12.7 13.2 13.0	44.0 42.0 42.8 43.2 +0.4 14.0 13.4 13.8 13.6	43.8 41.8 42.8 43.7 +0.9 14.4 12.8 13.6 13.4	42.4 40.2 41.6 42.3 +0.7 13.5 12.2 12.9 12.8	42.2 41.0 41.9 41.7 -0.2 13.7 12.9 13.2 12.8	42.7 +0.5 13.3 13.1			

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit. Note: All "current mill average" data are calculated from the totals of the individual readings.

FABLE IX (continued)
HHAMRY OF INSTITUTE AND MILL DATA FOR HILL Q

piff.		۰.	. Iŝ	,5 4	.21	27			
		360	360	191	356.	: સ્વર્			
Orf Tear, g./si Cross Machine tute Mill		3543	7424	371ª	;35ª	351	3.4	66	2. 3.
Elmendorf Tea Cross Institute Fax. Fin. Av.		320	312	36	疫				
Elm In		400	376	472	Ĭ.				
biff.		-17	- 3	. 2	-16	à			
Elmendorf Tear, g./sneet In Pachine Institute Mill ax. Min. Av. Av. Diff		326	324	305	291	311			
orf Tear, g. In Machine tute Mil		34.3ª	331ª	311	307a	323	11.7	3.	ر. د. ج
Elmendorf Tear In Fach Institute Max. Min. Av.		315	304	272	34.8				
Elme Tan		384	376	368	368		•		
ength. ge Mill hv. Diff.		-2	ဆု	-5	7	ζ.			
		109	120	122	114	116			
Bursting Streng D.S.1. Eage Institute Mil Max. Win. Av. Av		116	128	124	116	121	707	0.111	210.0
Bursting D.S.i Institute X. Kin. Av	ց	100	111	1 90	36				
E.	196	130	145	145	131				
Diff.	September, 1961	-0.2	-0.2	7.0-	-0.1	6.0-			
Mill Av.	0,1	12.5	12.3	13.2	12.5	17.6			
Calloer, points bicute Mill an av. av.		17.7	12.5	13.6	12.6	6.51	<i>:</i>	77.74.	102.3
Institute		11.9 12.7	12.3	13.0	₹. Э				~
On Light Fort		97.5	13.2	14.2	13.0				
oiff.		\$.0.	11.2	2.0.	6.0.	8.0.			
Sasis Weignt, 15. Litute Mill En. Av. Av. Diff.				43.0	42.3	43.1			
Wetka		43.2	4 I . B	42.8		42.3	42.8	8.4.	a. de
Basis We Institute c. Min. Av		5.0	1.0	8.	9.0		••	•	•
Sasis Wei Institute Max. Min. Av.		44.0 42.0 43.2 44.0	42.7 41.0 41.8 43.0	43.8 41.8 42.8	42.4 40.6 41.4				
Mch.		2	2	۲:	∿1	ä	i ein nu.		
Sinlsh		STAN	31.45.	SPES	YFL:	il Averas	83 II 4w	÷.	٠.۽
Date Made		6-29-61	8-30-6.	9-13-61	19-51-6	Current 2010, Supragas	Completive 2011 Averages	Will Postor, Y	M. Panlex, &

Afths average includes the readings for one or more sycateens which tone beyond the 3/5-inch limit,

Note: All "current mill average" data are palculated from the totals of the individual readings,

TABLE XXI SPACARY OF INSTITUTE AND MILL DATA FOR MILL S

eet Diff.		;	;	;	;	;	ł	}				
뚮			1	1	i	1		1				
Cross Machine		423a	397ª	360 ^a	403ª	415a	395 ^a	365ª	004	400	100.0	107.2
Elmendorf Tea Cross i Institute Max. Min. Av.		328 4	360 3	320 3	384	376 4	320 3	326 3	4	#		٦
Elme Max.		480	2448	#2#	7,7	954	3† 1	456				
Diff.		}	1	ŀ	ł	1	1	ļ				
g./sl		1	1	ł	1	i	1	i				
Elmendorf Tear, g./sheet In Machine Institute Mill ax. Min. Av. Dif.		369ª	3,4	339	3,55	373ª	325	335	346	361	95.8	104.5
Elmendorf Tea In Mach Institute Max. Fin. Av.		320	36	36	596	320	596	280			·	
Aax.		\$	376	₹ 36	368	424	368	368				
rength, age Mill Av. Diff.		4	7	7	4	7	÷ 5	÷,	+5			
Bursting Strength, D.S.1. Rage Stitute Mill Min. Av. Av. Di		116	110	108	100	108	116	107	109		_	_
s.ing S. s.i.		77	11	107	%	100	111	102	107	105	101.9	97.3
Bursting p.s.i. Institute		8	8	16	23	ਲੈ	85	2				
Max	1961	131	129	118	107	135	147	124				
Diff.	<u>August, 1961</u>	-0.5	-0.5	-0.5	-0.7	9.0-	4.0-	-0.8	-0.5			
ļ_,	August	11.8 -0.5	11.7 -0.5	12.0 -0.5	12.1 -0.7	12.2 -0.6	7.0- 4.11	11.9 -0.8	11.9 -0.5			
points Mill Av.	August	11.8		12.0	12.1			11.9		12.7	97.6	7,85
points Mill Av.	August	12.3 11.8	12.2 11.7	12.5 12.0	12.8 12.1	12.8 12.2	11.8 11.4	12.7 11.9	11.9	12.7	97.6	4.85
points Mill Av.	<u>August.</u>	11.8	11.7	12.0	12.1	12.2	7:11	11.9	11.9	7.21	97.6	7.85
points Mill Av.	<u>August.</u>	11.9 12.3 11.8	11.9 12.2 11.7	12.0 12.5 12.0	12.3 12.8 12.1	12.0 12.8 12.2	10.2 11.8 11.4	12.7 11.9	11.9	12.7	97.6	7.35
Caliper, points Institute Mill Fax. Kin. Av. Av.	<u> </u>	13.0 11.9 12.3 11.8	12.8 11.9 12.2 11.7	12.9 12.0 12.5 12.0	13.0 12.3 12.8 12.1	13.6 12.0 12.8 12.2	12.5 10.2 11.8 11.4	13.0 12.0 12.7 11.9	12.4 11.9	12.7	9.76	7, 86
Atl 1b. Caliper, points Mill Institute Mill Av. Diff. Fax. Kin. Av. Av.	<u> </u>	43.5 43.3 -0.2 13.0 11.9 12.3 11.8	43.0 42.6 -0.4 12.8 11.9 12.2 11.7	41,7 -0.4 12,9 12.0 12.5 12.0	42.6 42.5 -0.1 13.0 12.3 12.8 12.1	43.0 -0.3 13.6 12.0 12.8 12.2	42.6 42.6 0.0 12.5 10.2 11.8 11.4	42.1 -0.2 13.0 12.0 12.7 11.9	-0.3 12.4 11.9	43.5	96.4	4. 89
Atl 1b. Caliper, points Mill Institute Mill Av. Diff. Fax. Kin. Av. Av.	<u> </u>	43.5 43.3 -0.2 13.0 11.9 12.3 11.8	43.0 42.6 -0.4 12.8 11.9 12.2 11.7	41,7 -0.4 12,9 12.0 12.5 12.0	42.6 42.5 -0.1 13.0 12.3 12.8 12.1	43.3 43.0 -0.3 13.6 12.0 12.8 12.2	42.6 42.6 0.0 12.5 10.2 11.8 11.4	42.1 -0.2 13.0 12.0 12.7 11.9	42.5 -0.3 12.4 11.9			
Caliper, points Institute Mill Fax. Kin. Av. Av.	<u> </u>	43.3 -0.2 13.0 11.9 12.3 11.8	42.6 -0.4 12.8 11.9 12.2 11.7	-0.4 12.9 12.0 12.5 12.0	42.5 -0.1 13.0 12.3 12.8 12.1	43.0 -0.3 13.6 12.0 12.8 12.2	42.6 0.0 12.5 10.2 11.8 11.4	-0.2 13.0 12.0 12.7 11.9	42.5 -0.3 12.4 11.9			
Atl 1b. Caliper, points Mill Institute Mill Av. Diff. Fax. Kin. Av. Av.	<u>Augus t.</u>	43.5 43.3 -0.2 13.0 11.9 12.3 11.8	42.4 43.0 42.6 -0.4 12.8 11.9 12.2 11.7	41,4 42,1 41,7 -0.4 12,9 12,0 12,5 12,0	41.0 42.6 42.5 -0.1 13.0 12.3 12.8 12.1	42.2 43.3 43.0 -0.3 13.6 12.0 12.8 12.2	40.2 42.6 42.6 0.0 12.5 10.2 11.8 11.4	42.1 -0.2 13.0 12.0 12.7 11.9	42.8 42.5 -0.3 12.4 11.9	5.54		
Basis Weight, lb. Galiper, points Institute Mill Institute Mill Max. Min. Av. Av. Diff. Max. Min. Av. Av.	- AURUS E.	44.6 42.4 43.5 43.3 -0.2 13.0 11.9 12.3 11.8	42.4 43.0 42.6 -0.4 12.8 11.9 12.2 11.7	41,4 42,1 41,7 -0.4 12,9 12,0 12,5 12,0	41.0 42.6 42.5 -0.1 13.0 12.3 12.8 12.1	44.0 42.2 43.3 43.0 -0.3 13.6 12.0 12.8 12.2	44.0 40.2 42.6 42.6 0.0 12.5 10.2 11.8 11.4	42.1 -0.2 13.0 12.0 12.7 11.9	42.5 -0.3 12.4 11.9			

 $^4\mathrm{This}$ average includes the readings for one or more specimens which tore beyond the 3/6-inch limit.

Note: All "current mill average" data are cilculated from the totals of the individual readings.

Table XXI (continued)

SUMMARY OF INSTITUTE AND MILL DATA FOR HILL S

Rimentini Post, s. slost Ulga hayilin Institute Max, Min. Av. Av. 1911.		464 384 419 ^a 408 336 363 ^a 408 336 369 ^a 448 352 402 ^a 4424 352 393 ^a 4420 352 393 ^a 4420 97.2	
Kluenturf Tear, g., shoot III Batthur III II Marking III II Mark, Mil. Av. 6v. 111ff.		1424 128 17994 368 264 304 384 304 358 352 280 3234 416 336 37794 410 288 333 410 288 333 410 288 333 410 288 333 104.8	
Bursting Strength, P.E.I. Hago Institute Hill Max. Min. Av. Av. DIFF.	<u> 1961 - </u>	123 74 96, 103 77 121 69 96 36 72 135 93 124 109 -5 119 85 104 99 -5 123 74 101 105 44 122 78 174 103 -1 125 78 174 103 -1 105 105 78 105 78 105 90 -5	
Callper, points Institute Mill Max. Min. Av. Av. Diff.	September, 1961	14.5 17.1 13.0 12.1 -0.7 14.7 17.6 17.0 12.4 -0.6 13.0 11.8 12.4 11.8 -0.6 12.9 11.9 12.4 12.0 -0.4 12.6 11.7 12.2 12.2 0.0 13.0 12.1 12.5 11.2 -0.5 13.0 12.1 12.5 11.2 -0.5 12.6 12.1 2.5 12.2 0.0	
Basis Weight, 10. Institute Mill Max. Min. Av. Av. Diff.		44.00 41.70 41.70 40.13 44.00 41.80 41.40 41.40 40.2 42.60 41.00 41.90 42.40 40.5 42.60 41.00 41.90 42.40 40.5 44.40 42.80 43.40 43.40 40.5 44.42 42.40 43.20 43.30 10.6 43.13 43.50 10.5 43.13 43.50 10.5 43.13 13.50 10.5	
Jake John We.			

 4 This average includes the readings for one or more specturens which tore beyond the 3/6-inch limit.

Noto: All "current mail average" data are calculated from the totals of the individual readings.

TABLE XXII

SURMARY OF INSTITUTE AND MILL DATA FOR MILL T

Elmendorf Tear, g./sheet Cross Wachine Institute Wax, Win, Av. Av. Diff.
Elmendorf Tear, g./sheet In Nachine Institute Max. Min. Av. Av. Diff.
Bursting Strength, D.s.i. gage Institute Aill Nax. Min. Av. Av. Diff.
1 Diff.
Caliber, points Institute Mill Eax. Ein. KV. EV.
Basis Weight, 10. Institute Mill Max, Min, Av. Av. Av. Diff. Bax. B
Moh. Max. Min. Av. Av. Diff. Bax. B
Basis Weight, 10. Institute Mill Max, Min, Av. Av. Av. Diff. Bax. B

September, 1961

No samples submitted.

ño samples submittēd.

TABLE XXIII

SUMMARY OF INSTITUTE AND MILL DATA FOR MILL U

Ciff.	92. at	Ą	w · ·	25 % %	•
媛	355 362 360 353	356	.to .tv	370	
orf Pear, g.// Cross Machine ture /ill n. Av. Av.	3294 3334 3468 3478	373ª	747 363 95.6 93.6	3334	362 93.6 91.1
Elmendorf Tea <u>Tross H</u> Institute Max. Min. Av.	304 312 296 336	336		304	
Share Nax.	384 352 384 392	#		376	
bet Diff.	\$ 20 1 9 7	٥	9	St to	
ds/:		其点	314	313	
rrf Tear, g In Machine tute Mi	287 ^a 277 ^a 315 ^a 302 ^a	295°	298 321 92.8 90.0	300	32c 96.9 93.9
Elmendorf Tea In Mac Max, Min. Av.		296		272	
Slme Ins Max.		360		352	
Diff.	1 7 7 1	1 1	ฯ	0 %	ñ
ength,	116 117 115 116	i ii	115	116	ii + 1
. B. C.		113 114	116 116 100.0	116	120 116 103.4 109.1
Bursting S D.s.i. Institute Max. Min. Av.		90	·	104	
IAI 3	133 132 136 145	133	r, 196	140	
Diff. Wa	0.0	-0.3	-0.1 September, 1961	0.0	2°0+
et .	3.11.8 11.7 11.9	12.0	11.9	11.9	12.0
, id	11.8 11.8 11.9	12.3	12.0 12.0 100.0	11.9	11.8 12.1 97.5 93.7
Caliper, Institute	11.5 11 11.5 11 11.4 11.1	11.9		11.3	
Max, M	12.1 1 1.21 1 12.4 1 1.51	12.9		12.1	
		7.0. t	†	+°°+	⇒ *0+
T Diff.	*				
Resis Weight, 1D. Situte Mill In. Av. Av.	43.1 43.0 43.3 43.1	42.4	4 + 45.9	43.6 42.0 42.8 43.1 43.2 42.2 42.7 43.1	.3
is wei	42.5 42.6 43.3	41.6 42.0	42.5 43.4 97.9 97.9	42.0 42.8	43.7 43.3 98.6
Basis Wei Institute Max. Min. Av.	43.2 42.2 42.5 43.2 42.2 42.5 44.0 42.0 43.1 43.4 42.0 42.7	42.8 41.6 42.0 42.4 40.8 41.8		43.6 42.	
	43.2 43.2 43.4	42.8	::	£ 53	 e.
Moh.	0 6 0 0	01 02	rage: Average	2 2	arage: Averag
Finish	12. 14. 14. 14. 15. 15. 15. 15.	E E	Current Mill Average: Cumulative Mill Average: Mill Factor, \$ Mill Index, \$	[2] [4]	Current Mill Average: Cumulative Mill Average: Mill Factor, \$ Mill Index, \$
	1 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8-15-61	Current Mill Ac Cumulative Mill Mill Factor, & Mill Index, &	5-30-61 8-30-61	Ourrent Mill A Cumulative Mil Mill Factor, %
Fate Made	7-23-61 7-24-61 5- 5-61 8- 9-01	2. E. B.	Cur Cum M41	2 6	द द स स

Aprils average includes the readings for one or more specimens which tore osyond the 3/6-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

represents the average of the averages obtained on the individual sample lots of linerboard evaluated at the mills during a given month. In addition to the presentations of Institute and mill data described above, Tables IV through XXIII also include under each test heading a column labeled "Diff." This column shows the differences between averages obtained at the Institute and those obtained at the mills. The data obtained at the Institute are used as the reference in calculating these differences.

The average test results obtained at the Institute and at the mills are summarized in Tables XXIV and XXV for the months of August and September, respectively. Shown in these tables for each mill is the difference for each test between the current mill average based on Institute data and the current mill average based on mill data. In addition, for each test the maximum difference encountered in comparing Institute and mill averages for individual sample lots is shown. In Table XXVI, the differences for each test between the current mill averages based on Institute data and those based on mill data shown in Tables XXIV and XXV for the months of August and September have been converted to per cent (based on Institute data as a reference).

A summary of the agreement obtained in the comparisons of Institute and mill test data for the months of August and September is shown in Table XXVII. This summary is based on the results given in Table XXVI. The tabulated data show the number of mills, and the percentage of all mills which this number represents, whose average test results for the months of August and September fall within designated percentages from the average test results obtained at the Institute. It may be noted from this summary that

TABLE XXIV

SUMMARY OF TEST RESULT COMPARISONS (Average Mill and Institute Results) FOR AUGUST, 1961

									•			
D	9		12.00 10.00		21100		7 H H H H H H H H H H H H H H H H H H H		298 314 +16 +36		347 365 +18 +30	
€⊶	0											
ဟ	7		2400 8000		31199 4000		107 109 +2 +5		346		007	
ď	80		1522 1057 1057		13.3		123		322		349 379 +30 +45	
ρ,	7		42.8 42.8 60.4 60.7		21100 186.4		109		377 356 -21 -36		425 417 -8 -34	
0	∞		43.9 43.3 -0.6 -1.0		22.23.00 2.13.00 2.43.00		FFFF FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF		332 339 +7 *17		400 419 412 412	
1	9		4460		22020		7777		278 240 -38 -51		329 325 -4 -28	
×	н		424. 454. 466. 466. 466. 466. 466. 466. 46		111100 6411100		3577		332 327 -5 -5		383 389 +6 +6	
н	П		45.56 45.56 45.56		13.1 13.1 0.0 0.0		121 129 48 48		303 325 422 422 422	88	333 395 +62 +62	
×	4		43.5 6.3 1.1 6.3		12.1	sth.	111 109 25 2-	ut t	299 280 -19 -38	acros	348 352 +4 +15	
وم	tυ	ght	444 444 444 444 444 444 444 444 444 44	r.ti	12.3	Strength	77117	Tearing Strength	317 288 -29 -45	rength	357 327 -30 -58	
н	to	Basis Weight	43.0 43.3 40.3 40.7	aliper	22799 2112	Bursting	11100	ing St	298 315 +17 +62	Tearing Strength	361 402 +41 +56	
Ħ	0	Bas		O,		A A		Teaı		ear		
O	6 0		42.6 42.9 11.1		22999 2469		114, 112, -2		339 359 +20 +37	E⊣I	365 398 +33 +62	
ĺ±,	_		00 M 100		2985		ago t		348 344 -4 -19		393 400 47 416	
	9		5,77 5,00 6,10 8,10 8,10 8,10 8,10 8,10 8,10 8,10 8		11100							
[ti]	9 0				.,,,,,,							
E			42.7 43. 42.9 43. 40.2 40. 40.9 40.		12.4 12.4 0.0 0.0 0.3		114		349 332 -17 -32		363 365 +22 -23	
C					.,,,,,,		113 114 109 109 -4 -5 -7 -8		319 349 336 332 +17 -17 +63 -32		359 363 380 365 +21 +2 +81 -23	
Ω	0 7		24 24 20 20 20 20 20		122.4						• • • •	
O	0 7 7		43.2 42.7 43.0 42.9 -0.2 +0.2 -0.9 +0.9	,	13.4 12.4 13.0 12.4 -0.4 0.0 -0.7 -0.3		1113 109 -4 -7		319 336 +17 +63		359 380 +21 +81	
D S	12 4 4 0		43.5 43.2 42.7 43.5 43.0 42.9 0.0 -0.2 +0.2 -0.6 -0.9 +0.9	,	12.9 13.4 12.4 12.4 13.0 12.4 -0.5 -0.4 0.0 -1.0 -0.7 -0.3		109 113 108 109 -1 -4 ±4 -7		317 319 295 336 -22 +17 -33 +63		357 359 361 380 +4 +21 +32 +81	

* Comparison based on averages involved only those samples on which mill test data were submitted. ** Average difference is the difference between the Institute mill average and the mill average based on mill test data. *** Maximum difference encountered in comparing the Institute average and the mill averages for any sample submitted by that particular mill.

TABLE XXV

1961 SURMARY OF TEST RESULT COMPARISONS (Average Mill and Institute Results) FOR SEPTEMBER,

F G H I J K L N K 2 43.6 (2.2 43.6 43.6 43.6 (2.2 43.6 43.6 43.6 43.6 43.6 43.6 43.6 43.6													
### Carpyroof 4 2 2 2 2 4 4 6 6 4 4 5 6 6 0 6 6 6 0 6 6 0 6 0 6 0 6 0 6 0 6	361	Þ	N		45.7 45.7 45.7		112.0 0.20 0.2		120		310 312 42 43		339 370 +31 +37
# 3 C D Z C H I J K L N K L N K L N K L N K L L N K C L D L D L L L D L L L L L L L L L L L	•	Ę1	0										
# 3 C D Z C H I J K L N K L N K L N K L N K L L N K C L D L D L L L D L L L L L L L L L L L		တ	9		43 43 40 40 40 40 40 40 40 40 40 40 40 40 40		12.6		103		346		389
# 3 C D Z C H I J K L N K L N K L N K L N K L L N K C L D L D L L L D L L L L L L L L L L L	EO HOL	C)*	-#		444 444 444 444 444 444 444 444 444 44		4400 644		121 116 -50-		323 311 -12 -17		351 36E +17 +24
## 3 C D E F G H I J K L N I N I N I N I N I N I N I N I N I N	_	ച	N		4400 4000		1200		1116		356 338 -18		419 419 421 421
## 3 C D Z C 4 L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L L D L L D	e itesu	O	-#		\$5.00 \$0.00		2200 4200		120		339 342 +3 +22		398 421 423 441
A 3 C D Z C 4 L D L D L D L D L D L D L D L D L D L	ıtuı	2.3	0										
## 3 C D E F C H I D F F C H I D F F C H I D F F C H I D F F C H I D F C F C F C H I D F C F C F C F C H I D F C F C F C F C F C F C F C F C F C F	บระ	×	0										
### 3 C D Z C L L L L D L L L L L L L L L L L L L L	. ລເ.ສ 1	H	77		55. 55. 54. 54. 54. 54. 54. 54. 54. 54.		5000 5000 5000	ti di	125 126 +5 +10	- 4	305 318 +13 -56	cross	360 378 +18 +38
### 3 C D B F C H D C H	Se Mill	×	72	leight	4446 56235	F-1	13.3	- 1	112 109 8-13	trenst	301 276 -25 -36	easth.	357 346 -111 -21
### 3 C D B F C H D C H	Averag	L)	7	asis 5	43.42 43.43 43.63 43 43.63 43 43 43 43 43 43 43 43 43 43 43 43 43	Calibe	12.6	รีนเรียน	118 771 74 -4	ring S	322 231 -331 -338		358 341 -17 -27
## 3 C D 3 F F F F F F F F F F F F F F F F F F	c con	н	7	121	43.6 43.6 43.6 43.6 43.0		122 122 124 125 126 126 126 126 126 126 126 126 126 126	괾	113	Tea	333	Teari	357 419 462 475
## 3 C D 3 F F F F F F F F F F F F F F F F F F	1647	11	0										
## 3 C D E E E E E E E E E E E E E E E E E E		Ö	[†] 7		43.0 43.0 40.11.0		5000 0000 0000		113		345 345 +33 +20		398 428 +30 +44
## B C D ### B C D ##################################		ſz.,	4		77.77 47.70		11100		421		340 332 -8		385 337 +2 +27
## 3 C	1	(t l	~		4400°		6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		102		325 354 +32 +40		367 424 +57 +58
### B B B B B B B B B B B B B B B B B B	111011	Ð	~		42.5. 42.5. 60.1. 60.1.		12.2 12.2 0.0 1.0		114 104 -10 -10		335 12 13		350 348 -2 -13
## 43.2 ## 43.2 ## 43.2 ## 43.2 ## 43.2 ## 60.1 ## 60.1 ## 60.1 ## 40.3 ##	5	ပ	7		4.250 6.00 6.00 6.00	•	13.2		1108		308 349 443 453 453		345 389 443 445 445
iples Compared Compared A A A A A A A A A A A A A A A A A A A		മ	α		43.7 43.4 40.4 40.4 4.4		13.5		104		303 274 -29 -38		360 370 +10 +29
Mills* No of Samples Compared Institute Mill Av. Diff.** Max. Diff.**		4	4		43.3 43.3 00.1 00.1		12.6		113		371 394 423 439		403 403 426
		Mills*	No. of Samples Compared		Institute Mill Av. Diff.** Max. Diff.**		Institute Mill Av. Diff.** Max. Diff.**		Institute Mill Av. Diff.*** Max. Diff.***		Institute Mil Av. Diff.** Max. Diff.**		Institute Mill Av. Diff.*** Max. Diff.***

* Comparison based on averages involved only those samples on which mill test data were submitted. ** Average difference is the difference between the Institute mill average and the mill average based on mill test data. *** Maximum difference encountered in comparing the Institute average and the mill averages for any sapple submitted by that particular mill.

Tear, across

TABLE XXVI

M111

\$ **9** 6.4 **#** 1 95 7 1 Bursting Strength 6**.**0 99 45 Cali-per 00 6°0 7 1 ጥጥ COMPARISON OF INSTITUTE MILL DIFFERENCES FOR AUGUST AND SEPTEMBER, 1961 Basis Weight 0 0 0 0 0 0.1 9.0 40.1 ₽°-2 -0.7 +1 August September N111 9.0 \$\$ \$\$ 17 ងដ 4 4 49 40.9 15 †14 12 77 -0°0 7 % 79 15 00 Basis Weight 0.0 0.0 999 φ 6 φ 7 υ 10 August September Aygust September august September August September Period

Ö

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SUMMARY OF AGREEMENT BETWEEN INSTITUTE AND MILL RESULTS

TABLE XXVII

			.: :	• • •									
	+19					16 100 <u>.</u> 00	16					15 100.0	15
feen	+10		,			15 93.8	1487.5				16 100.0	13 86,7	12 80°0
Average Percentage Difference Between Institute and Mill Test Results	502₽				17	14 87°5	11 68.8				14 87.5	0°09	10
Differer 11 Test	5			17	16 94°1	8 50°0	10 62.5			16 100.0	12 75.0	8 °C,	0.09
ntage and Mi	44			1.6	16 94°1	5 31°2	8 50°0			15 93.8	12 75.0	7.94	0°07
rage Percentage Di Institute and Mill	T)	August		14 82.4	14 82.4	5 31°2	8 50°0	September		12 75.0	9	4 26.7	0°0† 9
Averag Ins	3 1	A.	17 100.0	10 58.8	14 82°4	4 25°0	7 43.8	Se	16 100.0	10 62.5	4 25.0	4 26.7	4 26.7
s	₽ [16 94°1	5 29.4	10 58.8	2 12,5	4 25°0		14 87.5	3 18.8	2 12.5	3	3 20.0
	±0°2		7,41,02	2 11.8	3	16.2	0°0		7,43.8	2 12.5	16.2	000	2 13°3
			Basis weight Number of mills Percentage of all mills	Caliper Number of mills Percentage of all mills	Bursting strength Number of mills Percentage of all mills	Tearing strength, in Number of mills Percentage of all mills	Tearing strength, across Number of mills Percentage of all mills		Basis weight Number of mills Percentage of all mills	Caliper Number of mills Percentage of all mills	Bursting strength Number of mills Percentage of all mills	Tearing strength, in Number of mills Percentage of all mills	Tearing strength, across Number of mills Percentage of all mills

agreement between the results obtained at the Institute and those obtained at the mills was generally very good.

Preconditioning and conditioning data pertinent to the test results obtained at the mills during August and September are given in Table XXVIII.

TABLE XXVIII

PRECONDITIONING AND CONDITIONING DATA FOR MILL TESTS

	Precon	ditioning		Cond	itioning	
	Relative	Tempera-		Relative	Tempera-	
Mill	Humidity,	ture,	Time,	Humidity,	ture,	Time,
Code	%	°F.	hr.	%	°F.	hr.
			August	•		
A	50-51	73-74	48	50	73	
В	50.	70-73	48	50	70-73	3
С	50	70	24	. No c	onditioning	-
D	50	73	24	50	73	24
E	•		No sampl	es submitted.		
F	No pro	econdition:		50	73	24
G	50	70-72	120	50	70-72	120-240
H			No sampl	es submitted.		
I	50	73	24-48	50	73	24-48
J	34-35	78	8	48-52	72-73	16
K	38-58	79-88	0.5	50	73	24- 48
L	54	73	48	54	73	48
M	50	72	24	No	conditioning.	
N	No pre	econditioni		60-70	87-90	
0	50	73	24	50	73	24
P	No pre	econditioni	ing	45-52	74-75	48
Q	50	72	24	No	conditioning.	
S	No pre	e c ondit io ni	ing	50	70-73	24-72
T	•		_	les submitted		
U	No pre	econditioni	_	50	73	24
			Septem	ber		
A	50	74-75	48	50	73	m. en
В	50	73	48	50	73	3
C	60	72	24	•	conditioning.	_
D	No pred	conditionir	ng	50	73	23-24
				lowing page)	· -	

TABLE XXVIII--Continued

PRECONDITIONING AND CONDITIONING DATA FOR MILL TESTS

	Preconditioning			Conditioning		
Mill Code	Relative Humidity, %	Tempera- ture, °F.	Time, hr.	Relative Humidity, %	Tempera- ture, °F.	Time,
E F G H	-	econditioni econditioni 70	ing。 120	56-57 50 50 es submitted.	70-72 73 70	24 120-168
I J K L	50 34-35 43-68 50-54	73 77 - 78 87-90 73	48 8 0.5 48-96	50 48 – 5 2 50 50–54	73 72 - 73 73 73	48 16 24 48-96
M N O P	50 No pr	73 econditioni	No sample	es submitted. es submitted. 50 50-51	73 ⁻ 73 - 74	24 48
Q S T			ing No sample	50. es submitted.	ditioning。 73	24 24
U	No preconditioning			50	73	R4

THE INSTITUTE OF PAPER CHEMISTRY

W. N. Hubert, Research Aide

Container Section

R. C. McKee, Chief, Container Section