

Collaborative Testing Services, Inc.
Containerboard Interlaboratory Testing Program

Participant Summary Report #558 (C) - March 2016

[Introduction to the Containerboard Program](#)

[Explanation of Tables and Definitions of Terms](#)

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BX10</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT9</u>	<u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT9</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42D1</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>206</u>	<u>69C2</u>	<u>Mullen Burst of Linerboard, 69 lb Linerboard</u>
<u>215</u>	<u>42D1</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>216</u>	<u>69C2</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard</u>
<u>223</u>	<u>42D1</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>224</u>	<u>69C2</u>	<u>STFI of Linerboard, 69 lb Linerboard</u>
<u>228</u>	<u>69C</u>	<u>Roughness - Stylus Method, 69 lb Linerboard</u>
<u>229</u>	<u>42D2</u>	<u>Roughness - Sheffield Method, 42 lb Linerboard</u>
<u>231</u>	<u>36Z</u>	<u>Internal Bond Strength, Linerboard, 36 lb Linerboard</u>
<u>234</u>	<u>36Z</u>	<u>Coefficient of Static Friction - Inclined Plane, 36 lb Linerboard</u>
<u>237</u>	<u>36Z</u>	<u>Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard</u>
<u>240</u>	<u>CM81</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM81</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM81</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM81</u>	<u>STFI of Medium, 26 lb Corrugating Medium</u>

Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

The Interlaboratory Testing Program for Containerboard is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Containerboard Group of the American Forest & Paper Association. The tests are conducted on a monthly basis.

For these tests samples of linerboard and corrugating medium, that each have been separately randomized from narrow rolls, are distributed for testing weekly. One weight of medium (26 lb.) is used for Concora Flat Crush Strength, Corrugated Fluted Crush Strength, Ring Crush Strength, and STFI Compression. Two weights of linerboard are tested each month for Mullen Burst, Ring Crush, and STFI Compression: 42 lb. - every month; 36 lb. and 69 lb. - alternate months. The participants return their test results for analysis and receive a monthly report.

Please refer to the section, "EXPLANATION OF TABLES", for definitions of terms and guidelines to interpreting the results.

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

The samples of linerboard and corrugating medium, which have been randomized and placed in sealed packages for distribution in this program, may be used as collaborative reference materials. The values most representative of each material are the Cumulative Grand Means in the latest reports, given at the bottom right of each table. Comparisons can only be made within one lot of material; therefore check your measurements against the Cumulative Grand Means with the same lot code as on the packages being tested.

Material	Lot Code	Dates in Use
36# Linerboard	36Z2	December 2012 - November 2014
	36Z3	December 2014 - Current
42# Linerboard	42B4	June 2014 - April 2015
	42D1	May 2015 - Current
69# Linerboard	69A2	February 2013 - November 2013
	69C,C1	December 2013 - Current
26# Corrugating Medium	CM73	January 2013 - September 2015
	CM81	October 2015 - Current

ABOUT CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

For further information, contact:
Collaborative Testing Services, Inc
21331 Gentry Drive
Sterling, VA 20166 USA
Voice: 571-434-1925
Fax: 571-434-1937
containerboard@cts-interlab.com

EXPLANATION OF TABLES

Each analysis is divided into three time spans. On the left side of the table are the individual laboratory results for each week of the month; in the center are each lab's statistical data for the month; and on the right are each lab's cumulative data for up to 16 weeks. At the bottom of the table are the consensus statistics for all the participants for each of the three time spans.

Definitions of Terms Used

Weekly Results

Laboratory Data

- WebCode - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each cycle and will change for each report. Your WebCode can be found in your Individual Report (Current Month Performance Report) and your datasheet.
- Weekly Means - The average of the test results obtained by the participant for each week that data were reported.

Consensus Data

- Wk Mean - For each week, the average of the Means for all the participants, excluding those laboratories flagged with an 'X'.
- Avg SDr - For each week, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'. The Avg SDr is an indication of the variation of measurements within an average laboratory.
- SD btwn Labs - For each week, the standard deviation of the laboratory Means about the Wk Mean, excluding those laboratories flagged with an 'X'. The SD LABS is an indication of the precision of measurement between the laboratories.
- Labs Includ - The number of laboratory Means included in the Wk Mean for that week.
- Labs Exclud - The number of laboratory Means reported but excluded from the Wk Mean for that week because of outlying results ('X' following Mean).
- Labs not rcvd - The number of laboratories failing to report for that week.

Monthly Results

Laboratory Data

- Mean CPV - For each laboratory, the average of all the weekly Means reported for this month.
- **Comparative Performance Value**, an indication of how well a laboratory's Mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean). The closer a laboratory's CPV is to zero, the more consistent its results are with the other participants' data.
- SDr - For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for all reported Weekly Means this month.
- SD Wk - The standard deviation among the laboratory's weekly Means, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.

Consensus Data

- Month Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for this month.
- Avg SDr - For the current month, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.
- SD btwn Labs - For the current month, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD btwn Group - For the current month, the standard deviation of the laboratory Means within the group about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD btwn Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks) for all

Cumulative Results

Laboratory Data

Mean	- For each lab, the average of all the monthly Means reported for the weeks shown.
CPV	- Comparative Performance Value , an indication of how well a laboratory's cumulative mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean).
SDr	- For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for the weeks shown.
SD Wk	- The standard deviation among the laboratory's weekly Means for the weeks shown, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.
Wks	- The number of weeks included in the cumulative period.
Inst	- The two letter instrument code. Codes are summarized at the bottom of the last analysis page.

Consensus Data

Grand Mean	- The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for the number of weeks included in the cumulative period.
Avg SDr	- For the cumulative period, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.
SD btwn Labs	- For the cumulative period, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.
SD btwn Wks	- For the cumulative period, the average of the laboratory between week standard deviations for all the participants.

Any laboratory that receives a 'flag' following a mean or standard deviation should refer to the chart below for an explanation of the data flag symbol:

<u>Flag</u>	<u>Explanation</u>
-------------	--------------------

Data Flags "X" and "*" indicate a laboratory's performance on an average value differed from the consensus.

Data Flags "H" and "L" indicate a laboratory's performance on a standard deviation differed from the consensus.

Flags assigned to Weekly Means, Monthly Mean and Cumulative Mean:

- X** Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is recommended.
- *** Included in the weekly means, monthly means and/or the cumulative mean; however, lab should review testing procedure and monitor future results.

Flags assigned to Weekly Means:

- H** Indicates high within-laboratory standard deviation. The laboratory SDr for each week is not shown, but laboratory average SDr and consensus average SDr values are shown.
- L** Indicates low within-laboratory standard deviation. The laboratory SDr for each week is not shown, but laboratory monthly average SDr and consensus average SDr values are shown.

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

- H** Indicates high variability between weekly means (high week-to-week variation).
- L** Indicates low variability between weekly means (low week-to-week variation).

Containerboard Interlaboratory Testing Program
 Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BX10
 TAPPI Official Test Method T804



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
6WZ9ZT	652.9	-1.13	42.4	666.4	-0.90	53.6	3	LM
77YLCD	741.9	0.46	84.5	754.0	0.33	64.4	3	LL
7F82HK	671.2	-0.81	36.5	697.1	-0.47	61.9	3	EX
8F34KU	717.4	0.02	93.6	698.5	-0.45	60.5	3	LG
9W9MXC	919.2	3.62 X	22.5	891.9	2.26 *	19.3	2	EX
FKAEU2	809.0	1.65	56.1	856.9	1.77	53.2	3	TB
FUVH32	788.2	1.28	28.8	787.8	0.81	29.3	2	TE
H7K2TC	670.2	-0.82	28.9	655.9	-1.04	46.5	3	LL
JYWXYE	663.0	-0.95	42.7	653.4	-1.08	35.0	3	ER
L78YBT	717.4	0.02	29.7	765.2	0.49	57.6	3	ET
L84EL6	710.4	-0.11	58.0	743.3	0.18	50.6	3	LM
PDYFEU	675.3	-0.73	23.7	658.1	-1.01	29.3	2	ER
RWKQDY	673.0	-0.77	18.0	702.0	-0.40	33.4	3	ER
T42LUT	808.8	1.65	61.9	810.0	1.12	47.9	3	LG
UJPJ9T	619.9	-1.72	28.9	643.5	-1.22	32.1	3	LS
WAWMMH	671.6	-0.80	10.5	653.1	-1.08	28.1	3	LS
WPQE6Y	737.8	0.38	37.4	713.6	-0.24	58.1	3	ES
XZ28BJ	772.8	1.01	27.8	772.8	0.59	27.8	1	LS
YH2E3Q	776.2	1.07	12.7	783.8	0.75	16.0	3	ER
ZBDDXX	734.2	0.32	63.1	699.9	-0.43	49.6	3	ER

Consensus (All Labs) Results

Month Mean	716.38	Grand Mean	730.38
Avg SDr	46.95	Avg SDr	45.15
SD btwn Labs	56.00	SD btwn Labs	71.36
Labs Incd	19	Labs Incd	20

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	720.95	95.14	4.58	3
Clip sealing	703.65	41.39	12.73	14
Tape sealing	838.80	70.40	122.42	3

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BX10
TAPPI Official Test Method T804



Instrument Code List as Reported by the Labs

(ER) - Emerson 6200 Series	(ES) - Emerson 8510
(ET) - Emerson 7200	(EX) - Emerson Apparatus (Model not specified)
(LG) - TLS / L.A.B. Validator Series	(LL) - Lansmont 76-5K
(LM) - Lansmont 122-15k	(LS) - Lansmont Squeezer
(TB) - TMI Monitor/Compression Tester, Model 17-70	(TE) - Testometric M500 - 25 KN

Containerboard Interlaboratory Testing Program
 Analysis 202
Edgewise Compressive Strength, by T811, Corrugated board - ECT9
 TAPPI T811



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3MH98D	31.5	-2.21 X	2.6	31.5	-5.05 X	2.6	1	XX
7GKPJC	44.0	0.38	2.2	44.0	0.50	2.2	1	XX
8F34KU	45.2	0.62	1.4	45.6	1.20	1.5	2	WK
CN2EK8	39.3	-0.59	1.5	39.0	-1.72	1.2	2	WK
PDYFEU	44.7	0.51	1.4	44.7	0.78	1.4	1	EN
UJPJ9T	44.0	0.37	1.3	43.6	0.31	1.6	2	LC
WAWMMH	46.7	0.93	1.0	41.3	-0.72	2.0	2	EM
XZ28BJ	42.1	-0.01	2.1	42.1	-0.35	2.1	1	EM

Consensus (All Labs) Results			
Month Mean	42.18	Grand Mean	42.90
Avg SDr	1.77	Avg SDr	1.75
SD btwn Labs	4.85	SD btwn Labs	2.26
Labs Incd	8	Labs Incd	7

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

(WK) - Zwick Z005 Crush Tester

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT9
TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
38QB6H	51.6	1.88	1.6	50.5	1.77	1.6	2	LC
3MH98D	31.8	-4.96 X	2.5	31.8	-5.88 X	2.5	1	XX
4E2WRR	48.3	0.76	1.2	47.0	0.33	1.3	2	LD
62U7PJ	45.4	-0.25	1.7	44.1	-0.84	2.4	2	LD
6WZ9ZT	47.0	0.32	1.3	47.5	0.53	1.6	2	EM
6ZYMNH	40.0	-2.13 *	3.3	42.4	-1.55	3.0	2	LC
77YLCD	46.1	0.00	0.8	49.3	1.26	1.4	2	BU
7F82HK	44.7	-0.49	1.2	45.1	-0.44	1.2	2	LD
8F34KU	47.6	0.52	1.1	45.5	-0.26	1.7	2	LE
8L8Z7F	45.3	-0.28	2.0	46.2	0.03	2.2	2	TK
9LQ3DF	45.4	-0.24	1.5	45.5	-0.27	1.5	2	TG
9W9MXC	47.7	0.56	2.6	46.6	0.19	2.6	2	CT
ADBJUG	47.2	0.36	1.7	39.6	-2.67 *	1.7	2	LC
FKAEU2	52.2	2.11 *	0.9	50.3	1.68	0.8	2	LC
FUGWTZ	47.6	0.53	2.1	48.0	0.76	1.6	2	EM
GLKGGZ	44.4	-0.59	1.3	44.5	-0.70	1.2	2	TB
H7K2TC	48.1	0.69	3.3	49.0	1.17	2.5	2	LC
HPWNG6	47.8	0.59	0.9	47.8	0.67	0.9	1	LC
JYWXYE	48.4	0.79	2.0	47.7	0.61	2.0	2	LD
L78YBT	51.9	1.99	1.7	50.3	1.67	1.9	2	TD
L84EL6	47.0	0.30	1.3	48.8	1.06	1.3	2	TG
MQVKRB	45.4	-0.23	2.0	45.4	-0.30	2.0	1	LD
N3H93Z	42.1	-1.40	1.8	35.3	-4.46 X	1.8	2	TD
PDYFEU	45.7	-0.13	2.5	45.7	-0.18	2.5	1	EN
QTQDFP	47.1	0.35	1.6	47.1	0.37	1.4	2	LD
RCX37R	44.8	-0.47	0.8	44.6	-0.63	0.7	2	LC
RL48U3	42.5	-1.26	1.5	43.8	-0.98	1.6	2	LD
RWKQDY	43.4	-0.95	1.5	44.1	-0.83	1.7	2	TB
T42LUT	45.7	-0.13	3.0	46.0	-0.08	2.5	2	EM
UJPJ9T	46.7	0.20	0.9	46.6	0.17	1.4	2	LC
WAWMMH	38.5	-2.62 *	1.9	42.3	-1.57	1.8	2	EM
WPQE6Y	47.6	0.52	1.9	47.2	0.42	1.7	2	LD
XZ28BJ	45.5	-0.22	1.2	45.5	-0.29	1.2	1	EM
YH2E3Q	42.0	-1.41	0.9	42.8	-1.38	0.9	2	EM
Z96XQR	46.0	-0.04	0.3	46.0	-0.07	0.3	1	TM
ZAGXML	45.3	-0.26	2.4	46.0	-0.05	2.0	2	LC

Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT9
 TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
ZBDDXX	44.1	-0.68	2.3	45.0	-0.49	2.0	2	EN
ZJRZ9M	50.1	1.40	1.4	50.1	1.59	1.2	2	LC
ZKMHBN	45.9	-0.08	0.9	44.5	-0.69	1.2	2	EX

Consensus (All Labs) Results			
Month Mean	46.11	Grand Mean	46.17
Avg SDr	1.78	Avg SDr	1.74
SD btwn Labs	2.89	SD btwn Labs	2.45
Labs Incd	38	Labs Incd	37

Instrument Code List as Reported by the Labs

- | | |
|--|---|
| (BU) - Buchel Digital Crush Tester | (CT) - Con-Ten |
| (EM) - Emerson 1200 Series | (EN) - Emerson 2200 |
| (EX) - Emerson (model not specified) | (LC) - L&W Crush Tester 48 |
| (LD) - L&W Crush Tester 248 | (LE) - L&W Crush Tester 840 |
| (TB) - TMI Monitor/Compression Tester, Model 17-70 | (TD) - TMI Digital Crush Tester, Model 17-09 |
| (TG) - TMI Digital Crush Tester, 17-76 | (TK) - TLS Compression Tester, Model 5184 |
| (TM) - TMI/Hinde & Dausch | (XX) - Instrument make/model not specified by lab |

Containerboard Interlaboratory Testing Program
 Analysis 205
 Bursting Strength (Mullen), 42 lb Linerboard - 42D1
 TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2AVJWN	110.8	106.0	110.0	109.4 L	109.0	-0.14	6.4	2.1	110.0	0.04	5.3	1.9	16	LA
2VFHZX	107.7	115.3 H	122.7 *	111.6	114.3	1.19	12.4	6.4	109.4	-0.19	11.8	5.0	15	TB
46EX2L	106.0	109.4	111.6	115.4	110.6	0.25	13.0	3.9	109.7	-0.07	11.9	3.4	16	LA
4FWFTT	111.0	97.8 X	100.7	100.3 *	102.5	-1.81	8.9	5.8	109.9	-0.02	10.2	6.2	16	LC
62U7PJ	118.8	114.3	111.6	109.5	113.6	1.00	9.7	4.0	112.1	0.76	9.1	3.1	16	AA
6CR73N	109.4	101.5 *	103.0	106.6	105.1	-1.13	11.7	3.6	106.4	-1.22	11.7	3.1	16	LC
6PHZCW	115.4	114.7	117.1	112.2	114.8	1.33	10.7	2.1	113.6	1.29	9.6	2.8	16	LC
6WZ9ZT	104.8	109.6	104.7	105.7	106.2	-0.86	10.0	2.3	106.9	-1.07	10.7	2.5	16	AH
7F82HK	109.5	No DATA	111.0	109.0	109.8	0.06	13.2	1.0	113.3	1.17	10.4	6.8 H	8	AH
7VYVRQ	106.3	103.6	104.3	105.0	104.8	-1.22	9.6	1.1	105.3	-1.63	10.9	1.6	12	LA
88BK7L	108.1	109.6	102.9	107.6	107.1	-0.64	10.0	2.9	107.5	-0.87	10.9	2.3	16	LC
8F34KU	116.9	117.0	117.4 H	112.1	115.8	1.59	15.0	2.5	114.2	1.50	12.3	2.3	14	LZ
8M4FGR	106.0	106.0	111.2	111.6	108.7	-0.23	9.9	3.1	108.3	-0.58	7.7	1.7	16	LA
9W9MXC	113.6	112.7	113.3 H	118.1 *H	114.4	1.23	17.3	2.5	114.4	1.55	14.5	2.9	16	XX
ADBJUG	109.0	108.0	111.2	116.4	111.2	0.40	11.7	3.7	109.5	-0.14	11.1	3.5	16	LA
ANC8LD	106.1	118.3 *	114.2	110.8	112.4	0.71	9.6	5.2	112.4	0.86	9.6	5.2	4	LJ
B9QEBC	109.4	109.4	109.4 L	109.3	109.4	-0.06	5.8	0.0 L	109.5	-0.14	6.3	0.1 L	16	LJ
CBU73P	110.4	108.0	109.5	109.3	109.3	-0.07	10.6	1.0	108.5	-0.49	10.1	2.2	16	LB
GEGH6B	110.7	110.2	110.8	113.0	111.2	0.40	12.5	1.3	111.0	0.39	12.6	2.8	16	LZ
H8TEBD	105.6	110.4	109.7	110.1	109.0	-0.16	10.5	2.3	109.8	-0.05	11.1	3.7	16	LA
HY2VW6	81.5 XL	111.9	111.8	110.3	103.9	-1.45	11.4	14.9 H	108.5	-0.50	11.6	7.8 H	16	LJ
JGZ967	114.4	113.8	116.1	114.3	114.6	1.28	11.2	1.0	112.3	0.83	11.2	2.2	16	LC
JYWXYE	110.5	112.8	108.4	106.1	109.5	-0.03	9.9	2.9	113.0	1.08	10.9	5.1	16	AH
KC47GW	112.0	108.7	105.2	110.6	109.1	-0.12	8.6	2.9	109.1	-0.30	8.1	2.1	16	AH
KFZUX4	120.0 *	117.5	117.6	110.2	116.3	1.71	13.2	4.2	113.8	1.36	11.3	4.1	16	LC
KX2FXD	109.3	107.8	106.1	105.1	107.1	-0.63	9.8	1.9	109.1	-0.29	11.3	4.6	15	LZ
LQGYH9	112.7	114.6	111.5	No DATA	112.9	0.84	10.9	1.5	111.5	0.55	11.7	2.1	15	TB
LYRZ4A	112.4	107.3	109.6	107.8	109.3	-0.08	9.3	2.3	108.9	-0.34	10.6	3.4	16	LC
MCEPEY	103.2	104.0	109.4	101.1	104.4	-1.31	13.0	3.5	105.9	-1.40	12.3	3.8	12	XX
MQVKRB	107.9	104.8	104.1	107.3	106.0	-0.90	12.0	1.8	105.4	-1.57	10.1	1.8	16	LA
NGKH7A	110.6	108.6	107.4	108.3	108.7	-0.22	11.1	1.4	107.2	-0.96	10.8	1.9	8	AX
NUBE88	108.7	107.2	104.5	105.1	106.4	-0.81	11.1	1.9	105.9	-1.42	10.1	2.6	16	AH
NXBHYU	111.7	112.0	110.3	109.6	110.9	0.33	7.2	1.1	111.4	0.51	9.5	2.5	16	TP
PVZ46T	117.4	No DATA	No DATA	No DATA	117.4	1.99	10.8	0.0 L	107.0	-1.03	9.6	7.9 H	13	LC
QM4MTU	114.8	111.4 L	113.5	113.9 L	113.4	0.97	4.4	1.4	112.6	0.94	4.9	1.8	16	XX

Containerboard Interlaboratory Testing Program
 Analysis 205
 Bursting Strength (Mullen), 42 lb Linerboard - 42D1
 TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
QTQDFP	119.8 *	110.8	110.3	109.6	112.6	0.77	7.5	4.8	112.6	0.94	7.5	4.8	4	LA
RL48U3	110.1	108.1	113.5	110.1	110.4	0.22	11.4	2.2	110.7	0.28	11.1	3.4	16	LC
RWKQDY	104.8	106.3	101.8	107.1	105.0	-1.16	10.0	2.3	106.8	-1.11	11.2	3.1	16	LA
TMBL29	112.5	109.6	106.0	107.5	108.9	-0.17	12.1	2.8	109.2	-0.26	11.4	3.3	16	LA
TMURZY	108.0	104.4	108.4	110.4	107.8	-0.45	12.4	2.5	109.8	-0.05	11.3	2.6	16	AH
UJPI9T	108.6	106.8	105.2	110.4	107.8	-0.46	11.5	2.2	106.4	-1.23	10.3	3.1	16	AH
UR46HX	106.6 L	109.8 L	112.9	111.4	110.2	0.15	5.2	2.7	114.2	1.51	4.9	5.4	8	LA
UTBKP4	99.7 *	108.2	103.5	105.9	104.3	-1.33	9.8	3.6	109.6	-0.13	11.9	5.8	16	LA
VTVNW4	110.4	115.9	111.8	114.2	113.1	0.88	11.8	2.4	116.7	2.38 *	11.9	5.3	16	LA
VYGGBN	113.0	107.8 L	109.0	112.8	110.7	0.27	5.7	2.6	108.2	-0.61	5.6	3.1	16	RE
WAWMMH	104.9	95.9 X	96.6 *	98.3 *	99.0	-2.69 *	9.0	4.1	111.6	0.58	11.1	8.8 H	16	RE
WBT4WU	115.3	113.8	113.1	110.4	113.1	0.90	9.2	2.1	111.7	0.63	9.3	2.4	16	LC
WPQE6Y	112.5	112.0	109.6	116.6	112.7	0.78	11.8	2.9	110.1	0.07	11.7	3.1	16	LA
XFUYTY	107.6	109.5	101.1	102.0	105.1	-1.15	7.6	4.1	105.4	-1.60	8.1	3.1	16	TB
XTJYMM	112.5	102.9	100.4	104.9	105.2	-1.12	7.6	5.2	105.7	-1.49	7.8	3.5	16	AX
YJ9UAW	115.7	112.9	No DATA	113.8	114.1	1.15	10.3	1.5	114.3	1.53	11.2	2.0	15	LA

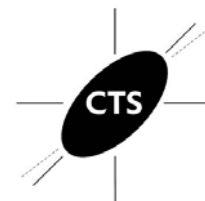
Consensus (All Labs) Results

Wk Mean	110.46	109.89	109.08	109.35	Month Mean	109.58	Grand Mean	109.92
Avg SDr	10.01	10.63	10.65	11.06	Avg SDr	10.57	Avg SDr	10.36
SD btwn Labs	4.32	3.96	5.14	4.16	SD btwn Labs	3.95	SD btwn Labs	2.85
Labs Includ	50	47	49	49	SD btwn Wks	3.66	SD btwn Wks	3.94
Labs Exclud	1	2	0	0	Labs Includ	51	Labs Includ	51
Labs not rcvd	0	2	2	2				

Instrument Code List as Reported by the Labs

- (AA) - Perkins Model A
- (AX) - Perkins Mullen Tester (model not specified)
- (LB) - L & W Burst-O-Matic
- (LJ) - L & W Bursting Strength Tester J-Type
- (RE) - Regmed/Mullen Tester
- (TP) - Technidyne PROFILE/Plus
- (AH) - Perkins Model AH
- (LA) - L & W Bursting Strength Tester
- (LC) - L & W Autoline
- (LZ) - L & W (model not specified)
- (TB) - TMI Monitor/Burst 1000
- (XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
 Analysis 206
 Bursting Strength (Mullen), 69 lb Linerboard - 69C2
 TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results					Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks		
2AVJWN	160.6	164.3	174.2 XL	163.7	165.7	2.53 *	6.8	5.9	163.0	2.02 *	8.5	4.9	12	LA	
2VFHZX	153.0	150.7	152.6 L	154.0	152.6	-0.81	10.7	1.4	154.4	-0.34	11.3	2.1	10	TB	
46EX2L	157.4	156.0	152.8	159.3	156.4	0.16	11.9	2.7	155.4	-0.05	10.8	2.8	12	LA	
4FWFTT	155.0	155.5	150.5	146.3	151.8	-1.00	8.4	4.3	151.4	-1.14	10.4	3.6	8	LC	
62U7PJ	168.6 *	157.6	154.7	158.2	159.8	1.02	11.0	6.1	157.2	0.42	11.3	5.3	12	AA	
6CR73N	148.4	155.7	156.7 H	155.2	154.0	-0.44	12.5	3.8	154.7	-0.24	12.1	3.9	12	LC	
6PHZCW	157.9	161.8	155.0	157.7	158.1	0.59	13.9	2.8	157.8	0.59	11.3	3.4	12	LC	
6WZ9ZT	153.6	158.6	149.8	153.3	153.8	-0.49	10.3	3.6	154.3	-0.35	9.8	2.9	12	AH	
7F82HK	164.0	No DATA	155.5	165.5	161.7	1.50	12.1	5.4	183.9	7.71 X	183.6	53.7 H	5	XX	
7VYVRQ	152.1	152.4	152.4	147.7	151.1	-1.17	11.8	2.3	154.0	-0.45	11.0	3.6	12	LA	
88BK7L	154.6	148.2	148.6	154.6	151.5	-1.08	10.6	3.6	152.8	-0.78	12.2	3.3	12	LC	
8F34KU	155.0	157.7	153.5	157.7	156.0	0.06	11.8	2.1	158.8	0.88	11.0	4.1	11	LZ	
8M4FGR	162.5	159.9	156.8	155.4	158.7	0.74	12.4	3.2	157.6	0.53	10.9	2.6	12	LA	
9W9MXC	161.1	163.3	158.6	161.0	161.0	1.33	12.5	1.9	162.0	1.75	13.3	4.1	11	XX	
ADBJUG	162.2	154.3	158.5	158.4	158.3	0.66	10.6	3.2	155.3	-0.10	9.8	4.0	12	LA	
ANC8LD	151.5	160.4	No DATA	No DATA	156.0	0.05	14.7	6.3	153.5	-0.58	12.7	4.8	6	LJ	
B9QEBC	155.4	155.3	155.4	155.5	155.4	-0.09	9.7	0.1 L	155.5	-0.04	9.2	0.2 L	12	LJ	
CBU73P	154.8	155.7	155.6	154.7	155.2	-0.14	9.4	0.5 L	159.5	1.07	9.9	4.3	12	LB	
GEGH6B	158.7	156.3	161.0	157.3	158.3	0.64	11.5	2.0	157.1	0.40	11.8	2.4	12	LZ	
H8TEBD	159.1	158.0	162.2	152.3	157.9	0.55	11.2	4.1	156.1	0.13	10.8	3.3	12	LA	
HY2VW6	168.8 *	155.8	149.4	155.0	157.3	0.38	12.7	8.2	155.8	0.05	12.3	5.1	12	LJ	
JGZ967	157.0	164.2	154.2	151.6	156.7	0.25	11.6	5.4	156.3	0.20	12.2	3.8	12	XX	
JYWXYE	148.7	148.8	156.2	150.9	151.2	-1.17	10.2	3.5	159.1	0.95	10.2	8.4 H	12	AH	
KC47GW	153.9	152.1	151.8	150.0	152.0	-0.96	8.5	1.6	152.4	-0.87	8.7	2.6	12	AH	
KFZUX4	169.8 *	163.1	153.8 H	154.6	160.3	1.16	15.5	7.6	160.2	1.24	13.0	4.5	12	LC	
KX2FXD	144.6 *	146.4 *	144.8 *	145.0	145.2	-2.68 *	11.8	0.8	148.8	-1.87	12.3	3.7	11	LZ	
LQGYH9	166.3	151.9	155.5	No DATA	157.9	0.54	9.6	7.5	156.8	0.32	11.3	5.1	11	TB	
LYRZ4A	156.9	155.7	158.1	145.1	154.0	-0.45	13.1	6.0	152.6	-0.83	11.6	4.6	12	LC	
MCEPEY	153.7	151.1	158.4	157.1	155.1	-0.17	11.0	3.3	150.5	-1.39	11.2	5.4	8	XX	
MQVKRB	155.1	154.3	149.2	151.4	152.5	-0.83	7.2	2.7	152.8	-0.78	7.8	2.1	12	LA	
NGKH7A	156.5	154.8	156.9	159.5	156.9	0.29	10.0	1.9	157.3	0.45	11.9	1.8	8	AX	
NUBE88	147.7	154.2	159.9	151.3	153.3	-0.63	12.5	5.2	152.0	-1.00	11.5	4.0	12	AH	
NXBHYU	155.7 L	155.1	158.6	156.0	156.4	0.15	8.9	1.5	150.6	-1.37	8.5	5.5	12	TP	
PVZ46T	150.6	No DATA	No DATA	No DATA	150.6	-1.30	13.8	0.0 L	149.9	-1.55	11.5	4.0	9	LC	
QM4MTU	159.0	153.0	149.0	155.2	154.1	-0.43	8.2	4.2	155.4	-0.06	7.2	5.0	12	XX	

Containerboard Interlaboratory Testing Program
 Analysis 206
 Bursting Strength (Mullen), 69 lb Linerboard - 69C2
 TAPPI Official Test Method T807



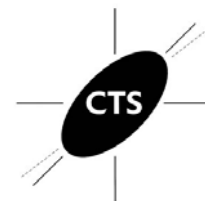
WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
QTQDFP	151.8	152.6	148.4	151.0	151.0	-1.22	10.4	1.8	151.0	-1.27	10.4	1.8	4	LA
RL48U3	154.8	157.7	150.5	155.6	154.6	-0.28	11.2	3.0	154.7	-0.26	11.4	3.1	12	LC
RWKQDY	159.7	162.0	155.8	161.0	159.6	0.98	12.4	2.7	156.9	0.34	11.2	4.2	12	LA
TMBL29	159.7	156.1	149.4	160.2	156.4	0.15	11.0	5.0	155.5	-0.02	11.9	4.9	12	LA
TMURZY	154.0	150.4	155.6	145.6	151.4	-1.10	9.0	4.4	148.6	-1.90	11.0	10.0 H	12	AH
UJPI9T	152.7	151.8	145.2 *	154.6	151.1	-1.19	13.0	4.1	153.6	-0.54	12.3	4.0	12	AH
UR46HX	165.2	163.3	157.1	165.1	162.7	1.76	9.7	3.8	162.7	1.92	9.7	3.8	4	LA
UTBKP4	152.4	147.5	147.8	160.4	152.0	-0.95	11.4	6.0	156.9	0.34	13.3	5.6	12	LA
VTVNW4	162.2	158.0	162.0	167.2 *	162.4	1.68	10.8	3.8	165.5	2.70 *	11.8	4.2	12	LA
VYGGBN	157.4	156.0	154.0	154.2	155.4	-0.09	8.8	1.6	154.1	-0.41	9.8	2.3	12	RE
WAWMMH	134.5 XL	133.1 X	134.6 X	140.1 *	135.6	-5.12 X	10.1	3.1	139.3	-4.46 X	10.8	4.5	12	LA
WBT4WU	161.7	158.3	151.9	162.6	158.6	0.73	11.3	4.9	157.6	0.55	10.3	3.6	8	LC
WPQE6Y	159.7	160.5	162.8	159.9	160.7	1.26	11.4	1.4	157.7	0.56	10.0	4.5	12	LA
XFUYTY	161.9	161.2	155.9	150.8	157.5	0.43	12.8	5.2	159.3	1.00	11.4	4.5	12	TB
XTJYMM	144.7 *	135.4 X	139.9 X	140.7 *	140.2	-3.95 X	10.3	3.8	142.4	-3.59 X	10.1	3.6	12	AX
YJ9UAW	155.6	149.9	No DATA	150.6	152.1	-0.94	12.1	3.1	154.6	-0.26	11.6	5.0	11	LA

Consensus (All Labs) Results

Wk Mean	156.86	155.90	154.28	154.79	Month Mean	155.75	Grand Mean	155.61
Avg SDr	11.24	11.45	10.95	11.01	Avg SDr	11.24	Avg SDr	11.03
SD btwn Labs	5.75	4.58	4.40	6.05	SD btwn Labs	3.94	SD btwn Labs	3.67
Labs Includ	50	47	45	48	SD btwn Wks	4.12	SD btwn Wks	4.31
Labs Exclud	1	2	3	0	Labs Includ	49	Labs Includ	48
Labs not rcvd	0	2	3	3				

Instrument Code List as Reported by the Labs

- (AA) - Perkins Model A
- (AX) - Perkins Mullen Tester (model not specified)
- (LB) - L & W Burst-O-Matic
- (LJ) - L & W Bursting Strength Tester J-Type
- (RE) - Regmed/Mullen Tester
- (TP) - Technidyne PROFILE/Plus
- (AH) - Perkins Model AH
- (LA) - L & W Bursting Strength Tester
- (LC) - L & W Autoline
- (LZ) - L & W (model not specified)
- (TB) - TMI Monitor/Burst 1000
- (XX) - Instrument make/model not specified by lab



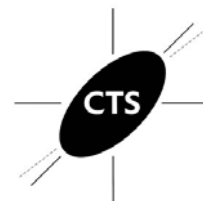
WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2AVJWN	89.1	88.4	88.3	88.4	88.6	0.24	2.3	0.4 L	87.7	0.03	2.3	1.6	16	LZ
2VFHZX	83.3	84.0	64.1 XL	78.1	77.4	-1.93	3.2	9.2 H	81.4	-1.44	3.4	5.4	15	LZ
3MH98D	57.4 XL	57.8 XL	59.6 XL	60.3 XL	58.8	-5.54 X	1.3	1.4	58.8	-6.71 X	1.3	1.4	4	XX
3PTV6R	83.3	85.0	82.8	83.2	83.6	-0.73	3.9	1.0	83.5	-0.96	4.0	1.3	16	LD
4FWFTT	86.9	86.0	85.1	84.0	85.5	-0.36	3.8	1.2	85.0	-0.59	3.8	2.1	16	LC
62U7PJ	84.5	84.7	88.4	86.6 L	86.1	-0.25	2.3	1.8	85.3	-0.54	3.0	1.5	16	LD
677GFT	75.8 *	77.9	81.3 H	80.8 H	79.0	-1.62	7.3	2.6	78.2	-2.18 *	7.5	2.3	12	MB
6CR73N	89.9	88.4	87.4	85.9	87.9	0.11	4.9	1.7	87.2	-0.08	4.0	1.3	16	LD
6WZ9ZT	86.6	86.5	91.5	88.8	88.3	0.19	4.2	2.3	89.2	0.38	3.8	2.8	16	EM
7VYVRQ	83.5	83.0	80.3	84.9	82.9	-0.86	3.5	1.9	83.5	-0.96	3.6	1.8	12	LD
8F34KU	85.2	88.4	88.9	88.6	87.7	0.08	4.1	1.7	87.6	0.01	3.5	1.2	14	LC
8L8Z7F	66.2 XH	78.8	81.4	75.3 *	75.4	-2.31 *	5.8	6.6	73.2	-3.35 X	4.9	4.5	12	MB
8M4FGR	82.4	82.4	83.9	83.9	83.2	-0.81	3.3	0.8	83.9	-0.86	2.9	1.1	16	LD
98UQ6C	84.4 H	91.4 H	88.5	88.6	88.2	0.17	6.1	2.9	91.3	0.88	5.2	5.3	12	MB
9LQ3DF	89.0	88.0 L	88.7	87.9	88.4	0.20	3.1	0.5 L	87.0	-0.14	3.1	2.0	16	TH
9X47ZE	88.3	88.0	89.9	90.4	89.1	0.35	4.6	1.2	88.6	0.25	4.4	1.4	12	EM
ABY4ZF	90.3 H	93.1	No DATA	No DATA	91.7	0.85	5.7	2.0	89.8	0.50	4.7	2.1	6	EX
ADBJUG	99.4 *	97.7 *	96.2	98.3 *	97.9	2.05 *	4.8	1.3	88.4	0.20	4.9	6.3 H	16	LC
ANC8LD	81.3	86.5	83.7 L	85.1	84.2	-0.62	2.6	2.2	84.2	-0.80	2.6	2.2	4	LD
B9QEBC	88.2	88.3	88.4	88.3	88.3	0.18	3.1	0.1 L	86.9	-0.16	4.1	0.8	16	LD
CBU73P	85.8	85.3	88.9	90.0	87.5	0.03	3.7	2.3	88.0	0.09	4.5	2.5	16	LC
CK3ZWH	90.0	91.3	88.6	89.7	89.9	0.50	3.9	1.1	89.1	0.35	3.6	1.8	16	LD
E4RYDZ	86.5	85.0	86.5 L	87.7 L	86.4	-0.18	2.3	1.1	86.3	-0.29	2.6	0.8	8	WK
F847DJ	82.0	84.2	85.8	84.5	84.1	-0.62	3.8	1.6	84.7	-0.68	2.9	1.0	16	LD
FAAR36	69.8 X	82.9	78.8	85.8	79.3	-1.55	4.2	7.0	83.6	-0.93	4.6	6.0 H	12	LC
FUVH32	88.6	86.7	89.8	86.6	87.9	0.12	2.8	1.6	87.9	0.08	3.2	1.9	8	LD
H8TEBD	90.7	100.1 *	99.9 *	93.1	96.0	1.67	3.7	4.8	94.6	1.63	4.1	2.8	16	LD
HY2VW6	111.1XH	77.7 *	76.8 *	77.8	85.8	-0.29	7.9	16.8H	84.7	-0.66	4.7	8.2 H	16	LC
JYWXYE	88.7	86.9	85.2	85.9	86.7	-0.13	4.2	1.5	85.9	-0.39	3.7	1.6	16	LD
KX2FXD	76.2 *	87.0	89.5	88.5	85.3	-0.39	4.8	6.2	80.6	-1.62	4.4	4.8	16	LC
LQGYH9	87.7	84.5	82.6	No DATA	84.9	-0.47	4.4	2.6	87.3	-0.07	4.2	2.1	15	LC
LYRZ4A	90.6	91.2	92.2	99.0 *	93.3	1.15	4.2	3.9	92.6	1.16	3.7	2.7	16	LC
MCEPEY	86.6	85.1	87.3	85.4	86.1	-0.24	3.6	1.0	86.2	-0.32	4.3	2.3	12	LC
MQVKRB	91.1	89.6	89.5	87.8	89.5	0.42	3.7	1.3	90.1	0.58	3.3	1.3	16	LD
N3H93Z	92.4 L	93.3	90.7 L	91.7 L	92.0	0.91	1.5	1.1	92.3	1.09	1.5	1.5	16	TD

Containerboard Interlaboratory Testing Program
 Analysis 215
Ring Crush, 42 lb Linerboard - 42D1
 TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results				Inst	
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks		Wks
NGKH7A	78.5 H	70.5 XH	75.0 *H	84.7	77.2	-1.97	8.1	6.0	80.4	-1.67	7.1	6.0 H	8	LC
NXBHYU	88.7	85.6	87.6	87.1	87.2	-0.02	3.4	1.3	87.2	-0.08	3.7	1.1	16	TH
PVZ46T	93.4	No DATA	No DATA	No DATA	93.4	1.17	4.7	0.0 L	92.7	1.20	4.0	4.7	13	LD
QM4MTU	88.4	90.0	95.8	84.0	89.6	0.43	4.3	4.9	91.7	0.97	4.0	4.6	16	LD
QTQDFP	88.0	91.2	91.9	92.6	90.9	0.70	3.7	2.0	90.9	0.78	3.7	2.0	4	LD
RL48U3	90.2	92.1	86.7	89.6	89.7	0.45	3.5	2.2	89.5	0.44	3.8	2.3	16	LD
RWKQDY	76.5 *H	78.6	74.0 *H	72.6 X	75.4	-2.31 *	7.3	2.6	79.6	-1.86	6.0	5.5	12	LZ
T42LUT	81.2	84.3	83.6	83.9	83.3	-0.79	3.3	1.4	83.0	-1.08	4.0	4.6	16	EM
TMBL29	90.4	86.9	87.0	89.1 L	88.4	0.20	2.7	1.7	88.5	0.22	3.3	2.4	16	LC
TMURZY	90.8	91.8	91.7	94.8	92.3	0.96	4.4	1.7	91.2	0.84	4.6	3.6	16	LC
UJPJ9T	86.7	89.7	88.9	87.9	88.3	0.18	4.4	1.3	87.5	-0.03	4.0	1.7	16	LC
UR46HX	93.7	92.0	90.9	89.8	91.6	0.83	4.0	1.7	91.8	0.98	4.1	2.5	8	LD
UTBKP4	89.7	82.0 H	89.3	124.2 X	96.3	1.74	6.0	18.9H	93.7	1.43	5.3	14.7 H	16	LC
VTVNW4	89.9	93.7	91.4	90.1	91.3	0.76	4.0	1.7	89.2	0.38	4.2	2.5	16	LZ
VYGGBN	90.3	90.9	90.0	92.1	90.8	0.68	3.5	0.9	95.0	1.74	3.9	3.9	16	LZ
WAWMMH	84.0	83.6	87.1	81.8	84.1	-0.62	4.2	2.2	84.2	-0.78	3.9	1.5	16	EM
WBT4WU	87.3	88.2	93.5	92.7	90.4	0.60	3.8	3.1	93.7	1.43	3.7	3.3	16	TC
XFUYTY	93.1 L	95.3	95.9	94.1	94.6	1.41	3.3	1.2	94.5	1.60	4.6	1.6	16	LX
XTJYMM	100.8 *	92.8	93.6	98.3 *	96.4	1.75	4.4	3.8	97.3	2.26 *	4.7	2.9	16	LZ
YH2E3Q	80.4 L	81.9	80.5	80.7 L	80.9	-1.25	2.1	0.7 L	81.9	-1.33	2.3	1.2	16	EX
ZBDDXX	84.4	82.6	83.8	82.9	83.4	-0.76	4.1	0.8 L	83.3	-0.99	3.8	2.0	16	EN

Consensus (All Labs) Results													
Wk Mean	87.20	87.37	87.40	87.53	Month Mean	87.33			Grand Mean	87.58			
Avg SDr	4.22	4.12	4.05	4.18	Avg SDr	4.33			Avg SDr	4.10			
SD btwn Labs	5.06	4.80	5.28	4.98	SD btwn Labs	5.15			SD btwn Labs	4.30			
Labs Includ	52	53	52	50	SD btwn Wks	4.51			SD btwn Wks	3.73			
Labs Exclud	4	2	2	3	Labs Includ	55			Labs Includ	54			
Labs not rcvd	0	1	2	3									



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EX) - Emerson (model not specified)

(LD) - L&W Crush Tester 248

(LZ) - L & W Crush Tester (model not specified)

(TC) - TMI Monitor/Compression Tester, Model 17-37

(TH) - TMI Compression Tester, Model 17-76

(XX) - Instrument make/model not specified by lab

(EN) - Emerson 2200

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

(TD) - TMI Digital Crush Tester, Model 17-09

(WK) - Zwick Z005 Crush Tester

Containerboard Interlaboratory Testing Program

Analysis 216

Ring Crush, 69 lb Linerboard - 69C2

TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2AVJWN	128.1	131.7	128.4	131.6	130.0	-0.18	4.3	2.0	130.8	-0.02	3.3	1.2	12	LZ
2VFHZX	125.7	129.3	102.8 X	125.1 L	120.7	-1.19	3.9	12.1 H	126.8	-0.50	4.3	10.3 H	10	LZ
3MH98D	85.9 XL	86.4 XL	86.9 XL	87.2 XL	86.6	-4.88 X	1.6	0.6 L	86.6	-5.40 X	1.6	0.6 L	4	XX
3PTV6R	118.5	117.3	118.6	119.7	118.5	-1.42	4.1	1.0	118.8	-1.47	3.9	1.4	12	LD
4FWFTT	136.2	134.4	132.1	129.9	133.2	0.16	3.3	2.7	129.5	-0.17	3.5	4.5	8	LC
62U7PJ	123.0	119.8	122.5	120.7	121.5	-1.10	2.8	1.5	121.3	-1.17	3.1	1.2	12	LD
677GFT	119.0 H	120.2	118.7	124.1 H	120.5	-1.21	8.3	2.5	130.2	-0.08	8.3	10.6 H	8	MB
6CR73N	135.2	134.0 L	132.9	132.9 L	133.8	0.23	2.9	1.1	133.9	0.37	3.3	2.7	12	LD
6WZ9ZT	121.9	123.6	126.9	124.0	124.1	-0.82	3.7	2.1	124.8	-0.74	3.8	2.0	12	EM
7VYVRQ	128.1	126.1	128.4	127.1	127.4	-0.46	2.9	1.1	127.0	-0.47	3.7	1.4	12	LD
8F34KU	125.0	136.6	133.0	127.8 L	130.6	-0.11	3.1	5.2	129.9	-0.12	2.9	4.4	11	LY
8L8Z7F	109.7 *	114.5	112.5 *	108.0 *	111.2	-2.22 *	5.3	2.9	115.3	-1.90	5.5	5.1	8	MB
8M4FGR	119.6	123.3	126.1	124.0	123.2	-0.91	3.5	2.7	124.2	-0.81	3.4	1.7	12	LD
98UQ6C	145.4	143.3	136.8	145.0	142.6	1.19	4.6	4.0	140.8	1.21	6.4	5.6	12	MB
9LQ3DF	127.0	127.9	126.4	126.2	126.9	-0.52	4.5	0.7	129.5	-0.17	3.8	2.8	12	TH
9X47ZE	137.1	140.4	136.3	138.0	137.9	0.68	3.5	1.8	133.0	0.26	4.2	5.6	8	EM
ABY4ZF	147.9	149.9	No DATA	No DATA	148.9	1.87	4.9	1.4	148.9	2.20 *	4.9	1.4	2	EX
ADBJUG	153.7 *	147.7	149.7	146.6	149.4	1.93	4.5	3.1	134.6	0.45	4.5	11.6 H	12	LC
ANC8LD	123.7	135.8 H	132.6 H	131.7	131.0	-0.07	7.0	5.1	134.1	0.40	6.3	5.0	8	LD
B9QEBC	132.5	132.7	132.7	132.6	132.6	0.11	4.3	0.1 L	132.9	0.25	3.5	0.2 L	12	LD
CBU73P	137.6	136.7	137.5	136.7	137.1	0.59	4.3	0.5 L	137.5	0.80	4.2	2.4	12	LC
CK3ZWH	126.0	129.4	129.3	129.5	128.5	-0.34	3.4	1.7	127.3	-0.44	3.8	2.1	12	LD
E4RYDZ	126.3	126.8	126.8	125.1 L	126.3	-0.58	3.1	0.8	123.1	-0.95	3.0	3.5	8	WK
F847DJ	122.5	122.8 L	125.8	124.6	123.9	-0.84	3.2	1.5	124.4	-0.80	3.2	1.1	12	LD
FAAR36	118.7	123.7	118.2 H	118.9 H	119.9	-1.28	8.6	2.6	121.5	-1.14	9.7	4.6	8	LC
FUVH32	127.7	131.4	131.7	134.8	131.4	-0.03	4.3	2.9	128.9	-0.24	3.9	3.4	8	LD
H8TEBD	132.1	142.5	143.0	134.4	138.0	0.69	3.3	5.6	137.1	0.76	3.6	3.4	12	LD
HY2VW6	127.0	117.0	116.7	117.0	119.4	-1.33	4.6	5.1	123.1	-0.95	4.8	4.4	12	LC
JYWXYE	123.0	122.9	127.6	122.2	123.9	-0.84	4.8	2.5	125.3	-0.69	4.7	3.3	12	LD
KX2FXD	122.1	131.9	133.3	131.4	129.7	-0.21	4.5	5.1	125.2	-0.69	4.3	4.7	12	LC
LQGYH9	140.7	132.0	128.1	No DATA	133.6	0.21	4.5	6.5	133.0	0.26	4.8	4.6	11	LC
LYRZ4A	149.6	150.1	146.9 H	147.4	148.5	1.82	5.9	1.6	146.7	1.93	5.0	2.3	12	LC
MCEPEY	133.4	131.5	133.6	133.5	133.0	0.15	4.3	1.0	135.1	0.51	4.3	2.5	8	LC
MQVKRB	128.9	126.4	127.4	126.7 L	127.4	-0.47	3.3	1.1	128.3	-0.32	3.3	1.1	12	LD
N3H93Z	147.6 L	148.4	149.7 L	152.5 *	149.5	1.94	2.1	2.2	147.0	1.96	1.7	2.7	12	TD

Containerboard Interlaboratory Testing Program
 Analysis 216
Ring Crush, 69 lb Linerboard - 69C2
 TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
NGKH7A	123.6 H	133.2	123.4 H	125.7	126.5	-0.56	8.1	4.6	126.8	-0.50	6.3	3.5	8	LC
NXBHYU	134.8	128.8	130.2	130.8	131.2	-0.05	2.6	2.5	132.1	0.15	3.0	1.8	12	TH
PVZ46T	132.5	No DATA	No DATA	No DATA	132.5	0.09	4.6	0.0 L	135.6	0.57	4.3	4.3	9	LD
QM4MTU	132.1	130.7	136.0	128.6	131.9	0.02	4.4	3.1	131.3	0.05	4.3	4.4	12	LD
QTQDFP	143.1	146.5	149.1	153.9 *H	148.1	1.78	5.7	4.6	148.1	2.10 *	5.7	4.6	4	LD
RL48U3	129.8	125.0	127.3	127.2	127.3	-0.47	4.5	2.0	129.2	-0.20	5.0	2.4	12	LD
RWKQDY	107.5 *H	105.5 *H	97.2 XH	106.1 *H	104.1	-2.99 X	13.7	4.7	113.7	-2.09 *	10.3	10.8 H	8	LZ
T42LUT	128.5	129.4	129.1	129.7	129.2	-0.27	4.5	0.5 L	126.9	-0.49	6.5	5.4	12	EM
TMBL29	141.6	122.1	123.6	122.7	127.5	-0.45	3.5	9.4 H	125.6	-0.64	3.2	5.2	12	LC
TMURZY	132.2	135.8	127.1	137.7	133.2	0.17	5.5	4.7	128.8	-0.26	5.5	6.3	12	LC
UJJP9T	126.5	125.8	130.7	126.7	127.4	-0.46	3.7	2.3	129.3	-0.19	3.4	5.0	12	LC
UR46HX	146.6	144.8	146.0	141.6	144.8	1.42	3.9	2.2	144.8	1.69	3.9	2.2	4	LD
UTBKP4	131.8	148.4	140.5 L	164.5 XH	146.3	1.59	6.3	13.9 H	140.1	1.13	5.9	10.2 H	12	LC
VTVNW4	130.6	128.1	130.6	129.5	129.7	-0.21	4.3	1.2	128.7	-0.26	3.8	2.8	12	LZ
VYGGBN	125.9 L	129.0	128.3	130.0	128.3	-0.36	2.7	1.7	124.8	-0.74	2.8	6.7	12	LZ
WAWMMH	127.8	140.7	140.6	137.1	136.6	0.53	3.3	6.1	127.4	-0.43	5.4	7.9 H	12	EM
WBT4WU	132.3	134.6	133.6	136.4	134.2	0.28	4.1	1.8	134.6	0.45	4.6	2.6	8	TC
XFUYTY	147.7	152.7 *	154.0 *	147.8	150.5	2.04 *	4.7	3.3	150.9	2.44 *	4.4	2.2	12	LX
XTJYMM	148.6	144.0	144.7	140.8	144.5	1.39	5.7	3.2	141.3	1.26	5.2	3.5	12	LZ
YH2E3Q	121.2	122.4	121.6	123.0	122.0	-1.04	3.1	0.8	124.8	-0.75	2.6	3.4	12	EX
ZBDDXX	126.9	119.4	118.9	129.1	123.6	-0.88	4.3	5.2	124.6	-0.77	3.6	4.7	12	EN

Consensus (All Labs) Results														
Wk Mean	130.77	131.64	131.47	130.47	Month Mean	131.65			Grand Mean	130.89				
Avg SDr	4.80	4.49	4.58	4.84	Avg SDr	4.56			Avg SDr	4.76				
SD btwn Labs	9.98	10.25	9.31	9.74	SD btwn Labs	9.23			SD btwn Labs	8.20				
Labs Includ	55	54	51	51	SD btwn Wks	4.13			SD btwn Wks	4.86				
Labs Exclud	1	1	3	2	Labs Includ	54			Labs Includ	55				
Labs not rcvd	0	1	2	3										

Containerboard Interlaboratory Testing Program
Analysis 216
Ring Crush, 69 lb Linerboard - 69C2
TAPPI Official Test Method T822



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200	(EN) - Emerson 2200
(EX) - Emerson (model not specified)	(LC) - L & W Crush Tester 48
(LD) - L&W Crush Tester 248	(LX) - L & W 506
(LY) - L & W Crush Tester 958	(LZ) - L & W Crush Tester (model not specified)
(MB) - Messmer Buchel K440	(TC) - TMI Monitor/Compression Tester, Model 17-37
(TD) - TMI Digital Crush Tester, Model 17-09	(TH) - TMI Compression Tester, Model 17-76
(WK) - Zwick Z005 Crush Tester	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 223

STFI, 42 lb Linerboard - 42D1

TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2VFHZX	22.0	20.8	20.5	20.3	20.9	-1.09	1.7	0.8	21.5	-0.70	1.8	0.8	15	LZ
3PTV6R	21.8	21.9	22.4	22.5	22.1	-0.18	1.8	0.4	21.4	-0.86	1.8	0.7	16	LY
46EX2L	22.6	24.3	24.5	23.6	23.7	1.03	1.8	0.8	23.2	0.80	1.7	0.9	16	LU
4FWFTT	22.7	22.1 L	20.5 L	22.6 L	22.0	-0.31	0.5	1.0	22.1	-0.24	0.4	0.8	16	LA
62U7PJ	21.3	20.4	20.9	21.9	21.1	-0.94	1.8	0.6	20.8	-1.37	1.9	0.5	16	LW
677GFT	26.8 XL	25.2 L	25.2 *L	25.6 L	25.7	2.50 *	0.5	0.8	24.3	1.78	0.4	1.3	12	BK
6CR73N	21.5	21.3	22.1	21.9	21.7	-0.50	1.5	0.4	22.1	-0.21	2.0	0.6	16	LA
6PHZCW	25.2 *	26.3 *	24.5	26.0 *	25.5	2.35 *	1.9	0.8	25.2	2.54 *	2.0	0.7	16	LA
7VYVRQ	21.5	21.5	21.3	20.4	21.2	-0.91	1.6	0.5	21.5	-0.71	1.6	0.6	12	LW
88BK7L	22.2	20.9	24.3	24.5	23.0	0.47	2.1	1.7	23.2	0.80	2.0	1.1	16	LA
8F34KU	21.4	21.7	21.2	21.6	21.5	-0.67	2.1	0.2	22.0	-0.27	1.9	0.7	14	LW
98UQ6C	20.6 L	23.4 L	22.3 L	21.7 L	22.0	-0.29	0.1	1.2	22.0	-0.26	0.1	1.0	12	LA
ADBJUG	23.9	21.6	23.9	24.2	23.4	0.76	1.6	1.2	23.3	0.88	1.7	0.9	16	LU
ANC8LD	20.9 L	19.8 L	21.8 L	20.4 L	20.7	-1.23	0.0	0.8	20.7	-1.43	0.0	0.8	4	LU
CBU73P	23.0	22.8	22.6	22.4	22.7	0.25	1.4	0.2	23.0	0.64	1.6	0.5	16	LU
CK3ZWH	24.0	23.4	22.6	23.4	23.4	0.75	2.1	0.6	23.7	1.21	2.0	0.6	16	LY
E4RYDZ	23.4	23.5	23.5	23.4	23.4	0.80	1.2	0.1 L	22.6	0.28	1.4	0.9	8	LY
FUVH32	21.8	21.0	20.8	21.5	21.3	-0.83	1.8	0.4	21.4	-0.83	1.8	0.4	8	LY
GEGH6B	24.1	25.8 *	22.6	23.7	24.1	1.27	2.4	1.4	23.3	0.88	2.0	1.2	16	LZ
H8TEBD	23.2	21.7	22.0	23.6	22.6	0.18	1.9	0.9	23.6	1.11	2.0	1.1	16	XX
J9JYGA	23.0 L	24.0 L	22.7 L	24.9 L	23.7	0.97	0.0	1.0	34.6	10.97X	0.0	12.0 H	16	LU
JGZ967	23.8	22.7	23.0	23.9	23.4	0.74	1.5	0.6	23.3	0.85	1.4	0.7	16	XX
JYWXYE	22.0	22.1	20.8	20.2	21.3	-0.81	2.2	0.9	21.8	-0.50	1.9	0.7	16	LU
KC47GW	22.6	22.6	22.6	22.6	22.6	0.16	1.0	0.0 L	22.5	0.12	0.9	0.2	16	TT
KFZUX4	20.0 L	20.2 L	19.5	22.5 L	20.6	-1.36	0.5	1.3	20.9	-1.29	0.4	0.8	16	LA
KX2FXD	22.4	22.4	23.7	23.0	22.9	0.39	2.0	0.6	22.7	0.37	2.0	0.7	16	LW
LQGYH9	24.8	23.0	21.1	NO DATA	22.9	0.44	1.7	1.8 H	23.5	1.02	1.9	0.9	15	LW
LYRZ4A	23.9 L	25.1 L	25.4 *L	25.9 *L	25.1	2.03 *	0.0	0.9	23.5	1.08	0.0	1.6 H	16	LA
MCEPEY	20.1	21.7	21.0	20.4	20.8	-1.18	1.7	0.7	20.9	-1.26	1.8	1.5 H	12	LU
MQVKRB	21.4	22.1	21.6	21.0	21.5	-0.63	1.8	0.5	21.5	-0.70	1.5	0.6	16	BK
MV7XA9	21.1	20.6	19.7	20.5	20.5	-1.42	1.3	0.6	20.9	-1.26	1.5	0.6	12	LW
NGKH7A	19.0 *	19.5	19.9	21.9	20.1	-1.71	1.6	1.2	20.2	-1.89	1.6	0.9	8	XX
NUBE88	23.7	23.7	22.7	24.1	23.6	0.89	2.2	0.6	23.1	0.68	1.9	1.1	16	LU
NWVL8U	22.0	21.4	20.7	20.9	21.2	-0.86	2.1	0.6	29.7	6.61 X	2.3	10.9 H	10	XX
NXBHYU	21.9	22.2	21.9	22.2	22.0	-0.24	0.9	0.2	22.0	-0.27	1.0	0.2 L	16	TT



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
PKEYV9	21.9 L	22.6 L	20.8 L	21.5	21.7	-0.51	0.6	0.7	21.0	-1.15	0.6	1.0	16	LW
PVZ46T	22.6	No DATA	No DATA	No DATA	22.6	0.19	1.3	0.0 L	22.7	0.30	1.8	1.1	13	LZ
QTQDFP	23.7	23.2	24.0	22.1	23.3	0.67	2.3	0.9	23.3	0.83	2.3	0.9	4	LA
RL48U3	24.2	20.9	21.2	23.5	22.4	0.04	1.9	1.7	22.5	0.19	1.8	2.6 H	16	LA
RWKQDY	21.3	21.7	19.7	21.4	21.0	-1.01	2.1	0.9	21.6	-0.61	1.9	0.7	15	LY
TMBL29	21.4	20.6	20.9	21.4	21.1	-0.97	1.9	0.4	21.5	-0.70	1.5	0.7	16	LA
TMURZY	21.8 L	No DATA	No DATA	No DATA	21.8	-0.45	0.5	0.0 L	23.0	0.59	1.0	0.8	13	LY
UJPJ9T	21.9	21.7	22.8	21.8	22.0	-0.24	2.0	0.5	21.9	-0.35	1.9	0.4	16	LU
UTBKP4	22.4	22.8 L	21.1 L	22.5 L	22.2	-0.11	0.7	0.7	21.5	-0.73	0.6	0.8	15	LW
VTVNW4	22.0	21.5	22.1	20.3	21.5	-0.67	1.9	0.8	20.9	-1.31	1.9	0.9	16	LW
WAWMMH	22.0	22.7	23.6	22.4	22.7	0.23	1.5	0.7	22.8	0.43	1.5	0.8	16	LZ
WBT4WU	24.4 L	23.8 L	21.9 L	23.9 L	23.5	0.83	0.5	1.1	23.3	0.87	0.6	1.0	16	LA
YJ9UAW	24.1	25.4	No DATA	25.5	25.0	1.97	2.3	0.8	24.3	1.75	2.3	0.7	15	LW
ZBDDXX	20.8	21.4	21.8	21.2	21.3	-0.78	1.6	0.4	21.1	-1.11	1.9	0.5	16	LY

Consensus (All Labs) Results

Wk Mean	22.36	22.36	22.07	22.53	Month Mean	22.37	Grand Mean	22.32
Avg SDr	1.64	1.60	1.68	1.65	Avg SDr	1.63	Avg SDr	1.62
SD btwn Labs	1.33	1.57	1.47	1.61	SD btwn Labs	1.33	SD btwn Labs	1.12
Labs Includ	48	47	46	46	SD btwn Wks	0.87	SD btwn Wks	0.92
Labs Exclud	1	0	0	0	Labs Includ	49	Labs Includ	47
Labs not rcvd	0	2	3	3				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction(was 53)

(LW) - L & W 53 with moisture correction (was 53M)

(LY) - L & W 152 without moisture correction

(LZ) - L & W (model not specified)

(TT) - TMI Short Span Compression, 17-34 (MB K455)

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program

Analysis 224

STFI, 69 lb Linerboard - 69C2

TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2VFHZX	32.2	31.0	30.6	30.5	31.1	-1.07	1.5	0.8	31.1	-0.95	1.6	0.8	10	LZ
3PTV6R	31.5	31.7	32.2	31.2	31.6	-0.78	1.7	0.4	31.0	-1.01	1.6	0.6	12	LY
46EX2L	34.8	35.9	34.4	35.5	35.2	0.97	1.5	0.7	34.9	0.82	1.4	0.8	12	LU
4FWFTT	32.0 L	31.5 L	31.0 L	30.8 L	31.3	-0.95	0.5	0.6	31.7	-0.67	0.5	0.8	8	LA
62U7PJ	31.8	31.8	32.2	31.0	31.7	-0.74	1.6	0.5	31.7	-0.67	1.6	0.4	12	LW
677GFT	37.2 L	38.5 *	36.1 L	35.8	36.9	1.83	0.7	1.3	36.5	1.55	0.8	1.0	8	BK
6CR73N	31.5	33.2	31.8	32.0	32.1	-0.55	1.6	0.7	32.3	-0.40	1.6	0.7	12	LA
6PHZCW	37.2	37.1	36.9 *	37.5	37.2	1.98	2.0	0.2	36.9	1.79	1.8	0.4	12	LA
7VYVRQ	30.7	30.8	31.1	31.8	31.1	-1.05	1.6	0.5	31.0	-1.02	1.4	0.4	12	LW
88BK7L	34.9	34.9	34.3	35.8	35.0	0.88	1.5	0.6	34.8	0.80	1.7	1.2	12	LA
8F34KU	31.7	32.1	32.3	31.5	31.9	-0.66	1.6	0.4	32.0	-0.56	1.5	0.5	11	LW
98UQ6C	32.0 L	35.4 L	33.7 L	36.5 L	34.4	0.59	0.1	2.0 H	34.8	0.77	0.1	1.3	12	LA
ADBJUG	35.8	34.8	36.0	36.8	35.9	1.32	1.4	0.8	35.6	1.17	1.4	0.7	12	LU
ANC8LD	33.9 L	33.2 L	32.7 L	33.1 L	33.2	0.01	0.0	0.5	34.5	0.62	0.0	1.4	8	LU
CBU73P	34.0	33.9	34.1	33.9	34.0	0.37	1.6	0.1 L	34.5	0.64	1.8	0.5	12	LU
CK3ZWH	34.5	34.9	33.8	34.3	34.3	0.56	1.7	0.5	34.1	0.44	1.7	0.5	12	LY
E4RYDZ	34.5	34.8	35.2	34.5	34.7	0.76	1.0	0.3	33.8	0.32	1.3	1.0	8	LZ
FUVH32	31.3	31.6	31.1	30.1	31.0	-1.08	1.5	0.6	31.2	-0.93	1.6	0.5	8	LY
GEGH6B	36.1	36.3	34.4	35.4	35.6	1.17	1.8	0.9	35.7	1.21	2.0	0.9	12	LZ
H8TEBD	33.8	34.3	34.2	32.7	33.7	0.27	1.8	0.7	34.1	0.42	1.7	0.9	12	XX
J9JYGA	34.7 L	33.8 L	34.9 L	34.0 L	34.4	0.57	0.1	0.5	42.3	4.31 X	0.1	13.3 H	12	LU
JGZ967	34.8	33.7	34.0	36.5	34.8	0.77	1.1	1.2	35.1	0.93	1.3	0.9	12	LU
JYWXYE	31.3	31.6	32.1	62.1 X	39.2	2.99 X	2.4	15.2 H	34.1	0.46	1.9	8.8 H	12	LU
KC47GW	33.7	32.9	33.9 L	33.4	33.5	0.13	0.8	0.4	33.4	0.12	0.9	0.3 L	12	TT
KFZUX4	29.8 L	30.4 L	30.4 L	33.1 L	30.9	-1.14	0.5	1.5	30.5	-1.26	0.5	1.0	12	LA
KX2FXD	34.1	33.6	34.5	34.2	34.1	0.43	1.6	0.4	33.9	0.35	1.7	1.3	12	LW
LQGYH9	33.1	33.7	30.7	NO DATA	32.5	-0.34	1.6	1.6 H	33.4	0.12	1.7	1.1	11	LW
LYRZ4A	36.8 L	36.2 L	36.9 *L	36.9 L	36.7	1.73	0.0	0.3	35.9	1.30	0.0	0.8	12	LA
MCEPEY	29.9	28.2 *	29.3	30.1	29.4	-1.90	1.5	0.8	30.0	-1.49	1.6	0.9	8	LU
MQVKRB	30.8	31.9	31.7	30.3	31.2	-1.02	1.2	0.7	31.3	-0.85	1.4	0.9	12	BK
MV7XA9	30.6	30.6	31.1	30.9	30.8	-1.20	1.4	0.3	30.6	-1.20	1.4	0.4	12	LW
NGKH7A	29.0 *	28.3 *	28.7 *	29.9	29.0	-2.10 *	2.4	0.7	28.0	-2.43 *	2.0	1.2	8	XX
NUBE88	33.5	33.6	33.5 H	34.4	33.7	0.26	3.0	0.5	34.5	0.61	2.2	1.3	12	LU
NWVL8U	32.7	33.4	33.4	33.2	33.2	-0.02	1.7	0.3	45.6	5.87 X	2.2	13.3 H	8	XX
NXBHYU	33.0	33.1	33.6	33.2	33.2	0.00	1.0	0.2	33.2	0.00	1.0	0.3 L	12	TT



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
PKEYV9	34.2	33.4	33.5	33.7	33.7	0.24	2.0	0.4	33.1	-0.02	2.0	1.2	12	LW
PVZ46T	35.5	No DATA	No DATA	No DATA	35.5	1.12	1.5	0.0 L	34.6	0.67	1.7	1.0	9	LZ
QTQDFP	37.0	36.0	34.3	36.0	35.8	1.30	1.9	1.1	35.8	1.26	1.9	1.1	4	LA
RL48U3	32.1	33.2	32.7	31.6	32.4	-0.40	1.7	0.7	33.4	0.13	1.7	1.4	12	LA
RWKQDY	31.7	31.9	31.1	31.0	31.4	-0.89	1.6	0.4	31.7	-0.71	1.5	0.4	12	LY
TMBL29	33.0	30.9	30.9	30.9	31.4	-0.88	1.6	1.1	31.6	-0.72	1.6	0.9	12	LA
TMURZY	33.3	No DATA	No DATA	No DATA	33.3	0.06	1.5	0.0 L	37.0	1.82	1.4	1.9	9	LY
UJPI9T	30.3	1.6 XL	31.4	31.1	23.6	-4.76 X	1.8	14.7 H	28.7	-2.09 *	1.7	8.6 H	12	LU
UTBKP4	32.9	32.8	31.1	32.7	32.4	-0.41	2.4	0.9	31.9	-0.60	2.2	1.0	12	LW
VTVNW4	33.1	33.2	32.6	32.6	32.8	-0.18	1.6	0.3	32.4	-0.34	1.6	0.7	12	LW
WAWMMH	33.9	34.4	36.2	35.1	34.9	0.84	1.8	1.0	33.4	0.13	1.8	1.7	12	LZ
WBT4WU	31.3 L	30.8	30.7 L	31.5 L	31.1	-1.05	0.6	0.4	32.6	-0.26	0.6	1.9	8	LA
YJ9UAW	35.4	36.6	No DATA	36.3	36.1	1.43	1.9	0.6	35.3	1.03	2.6	0.9	11	LW
ZBDDXX	31.1	30.3	31.2	30.7	30.8	-1.18	1.6	0.4	30.5	-1.27	1.8	0.7	12	LY

Consensus (All Labs) Results

Wk Mean	33.14	33.18	32.87	33.20	Month Mean	33.21	Grand Mean	33.16
Avg SDr	1.50	1.45	1.74	1.59	Avg SDr	1.56	Avg SDr	1.58
SD btwn Labs	2.06	2.22	1.99	2.23	SD btwn Labs	2.02	SD btwn Labs	2.12
Labs Incd	49	46	46	45	SD btwn Wks	0.77	SD btwn Wks	2.04
Labs Excld	0	1	0	1	Labs Incd	47	Labs Incd	47
Labs not rcvd	0	2	3	3				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction (was 53)

(LW) - L & W 53 with moisture correction (was 53M)

(LY) - L & W 152 with moisture correction

(LZ) - L & W (model not specified)

(TT) - TMI Short Span Compression, 17-34 (MB K455)

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
 Analysis 228
Roughness - Stylus Method, 69 lb Linerboard - 69C
 TAPPI Provisional Test Method T575



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
46EX2L	137.3	0.20	9.5	145.9	0.56	12.7	3	EV
4FWFTT	148.5	0.90	31.9	150.4	0.83	23.4	4	LA
677GFT	143.7	0.60	16.0	143.3	0.40	14.8	3	EV
7VYVRQ	129.9	-0.26	10.8	136.7	0.01	11.6	3	EV
88BK7L	122.1	-0.75	10.2	116.8	-1.18	12.6	4	LA
98UQ6C	142.7	0.54	21.4	140.3	0.22	18.5	2	LA
ADBJUG	110.6	-1.47	8.3	109.8	-1.59	11.8	4	LA
EJ2MPF	128.1	-0.37	9.2	132.0	-0.27	13.9	4	EV
GEGH6B	122.1	-0.75	19.9	177.5	2.45 *	84.2	4	LA
JYWXYE	142.4	0.52	16.3	141.9	0.32	12.5	4	EV
KFZUX4	107.6	-1.66	9.2	114.7	-1.30	10.7	4	EV
KX2FXD	144.4	0.64	12.1	132.0	-0.27	10.3	4	EV
LYRZ4A	116.2	-1.12	12.0	120.4	-0.96	13.8	4	LA
PVZ46T	156.3	1.39	13.3	149.3	0.77	12.9	4	LA
QTQDFP	125.9	-0.51	10.3	125.9	-0.63	10.3	1	XX
RWKQDY	156.2	1.38	15.4	155.8	1.15	13.7	4	EV
UR46HX	113.7	-1.28	13.1	116.0	-1.22	12.0	2	EV
UTBKP4	132.9	-0.08	11.7	137.7	0.07	13.9	4	EV
VTVNW4	137.9	0.24	13.3	129.6	-0.41	11.9	4	EV
ZBDDXX	163.8	1.86	11.0	153.8	1.03	12.9	4	EV

Consensus (All Labs) Results

Month Mean	134.12	Grand Mean	136.49
Avg SDr	14.75	Avg SDr	23.08
SD btwn Labs	15.97	SD btwn Labs	16.77
Labs Incd	20	Labs Incd	20

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgag Model 210-R

(LA) - L & W Autoline

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
 Analysis 229
Roughness - Sheffield Method, 42 lb Linerboard - 42D2
 TAPPI Provisional Test Method T538



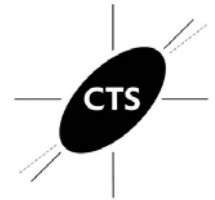
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
6CR73N	369.0	0.65	12.6	386.1	1.73	10.3	3	XX
AHHAWM	359.4	-0.60	7.6	359.4	-0.92	7.6	1	XX
LRBKBZ	379.2	2.00	6.2	378.5	0.97	7.7	2	XX
RL48U3	360.2	-0.51	8.7	360.2	-0.84	8.7	1	XX
UJPJ9T	361.6	-0.32	9.5	363.1	-0.56	8.0	3	XX
WBT4WU	357.6	-0.85	8.4	364.2	-0.45	7.6	3	XX
XTJYMM	361.2	-0.37	7.2	369.3	0.06	6.3	3	XX

Consensus (All Labs) Results			
Month Mean	364.04	Grand Mean	368.69
Avg SDr	8.80	Avg SDr	8.12
SD btwn Labs	7.59	SD btwn Labs	10.06
Labs Incd	7	Labs Incd	7

Instrument Code List as Reported by the Labs

(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
 Analysis 231
Internal Bond, 36 lb Linerboard - 36Z
 TAPPI Provisional Test Method T569



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
46EX2L	123.6	-1.20	14.5	138.4	-1.33	9.6	4	TM
4FWFTT	169.0	0.18	7.5	162.0	-0.07	26.3	4	HY
62U7PJ	173.8	0.33	8.3	171.2	0.43	7.8	4	TM
6CR73N	80.7	-2.51 *	2.2	80.8	-4.42 X	2.0	4	LZ
7VYVRQ	190.6	0.84	9.7	200.1	1.98	12.4	3	HY
8M4FGR	177.3	0.44	6.5	159.2	-0.22	7.1	4	SC
9XJPJB	161.6	-0.04	6.5	160.8	-0.13	5.4	4	TM
ADBJUG	145.8	-0.53	6.1	145.2	-0.97	8.3	4	TM
GEGH6B	136.2	-0.82	10.1	154.9	-0.45	11.7	3	TM
JYWXYE	149.4	-0.42	4.2	148.6	-0.78	6.6	4	TM
MCEPEY	153.2	-0.30	8.8	156.6	-0.35	9.4	2	XX
NGKH7A	148.8	-0.43	6.1	138.0	-1.35	7.5	2	SC
RWKQDY	187.0	0.73	19.6	180.6	0.93	17.3	2	XX
TMBL29	194.2	0.95	8.6	196.5	1.78	8.4	4	HY
UJPJ9T	180.8	0.54	3.7	181.0	0.95	3.7	4	HY
UR46HX	174.4	0.35	3.8	166.7	0.19	3.3	2	HY
UTBKP4	235.0	2.20 *	16.6	231.3	3.65 X	20.8	4	SC
WBT4WU	152.4	-0.32	7.2	151.9	-0.61	5.9	4	SC

Consensus (All Labs) Results			
Month Mean	162.99	Grand Mean	163.21
Avg SDr	9.43	Avg SDr	10.90
SD btwn Labs	32.75	SD btwn Labs	18.64
Labs Incd	18	Labs Incd	16

Comments:

MCEPEY - Data appears to off by 1,000. Data corrected by CTS.

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester
 (SC) - Scott Internal Bond Tester (Manual)
 (XX) - Instrument make/model not specified by lab

(LZ) - L & W (model not specified)
 (TM) - TMI Monitor/Internal Bond Tester

Containerboard Interlaboratory Testing Program
 Analysis 234
COF Inclined Plane (Slide Angle), 36 lb Linerboard - 36Z
 TAPPI Official Test Method T815



WebCode	Monthly Results			Cumulative Results			
	Mean	CPV	SDr	Mean	CPV	SDr	Months
46EX2L	28.3	0.54	1.2	27.8	0.48	1.7	4
4FWFTT	27.3	0.19	1.1	27.4	0.25	1.6	4
4LNMEM	24.0	-1.05	2.3	26.1	-0.39	2.6	4
62U7PJ	22.9	-1.44	1.9	24.4	-1.25	2.4	4
6CR73N	27.4	0.21	1.1	30.1	1.62	1.0	4
7VYVRQ	24.2	-0.97	0.8	24.3	-1.30	1.0	3
ADBJUG	25.3	-0.57	0.7	27.3	0.21	1.3	4
GEGH6B	30.0	1.17	2.7	28.1	0.60	2.9	4
JGZ967	25.0	-0.68	0.8	26.5	-0.22	1.2	4
JYWXYE	30.8	1.46	2.1	28.4	0.77	2.2	4
KX2FXD	23.2	-1.34	1.3	24.4	-1.30	1.8	4
LQGYH9	28.8	0.73	2.9	28.4	0.77	3.3	4
QTQDFP	26.6	-0.10	1.0	26.6	-0.16	1.0	1
RWKQDY	36.8	3.68 X	3.8	37.9	5.65 X	3.3	3
UJPJ9T	24.8	-0.75	1.3	24.5	-1.24	1.3	4
UTBKP4	28.4	0.58	2.4	29.7	1.44	2.8	4
WAWMMH	32.0	1.91	1.6	25.4	-0.76	1.5	4
WBT4WU	29.2	0.87	0.8	29.8	1.46	1.0	4
ZBDDXX	24.8	-0.77	1.3	25.0	-0.99	1.4	4

Consensus (All Labs) Results			
Month Mean	26.83	Grand Mean	26.88
Avg SDr	1.67	Avg SDr	1.92
SD btwn Labs	2.71	SD btwn Labs	1.96
Labs Incd	18	Labs Incd	18

Instrument Code List as Reported by the Labs

(ZZ) - Instruments No Longer Tracked

Containerboard Interlaboratory Testing Program
 Analysis 237
Air Resistance, 36 lb Linerboard - 36Z
 TAPPI Official Test Method T460



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2AVJWN	50.3	-0.49	1.8	52.6	0.48	1.3	4	XX
46EX2L	45.8	-2.30 *	2.7	46.1	-2.13 *	3.1	4	XX
4FWFTT	50.0	-0.62	2.2	49.4	-0.80	1.6	4	LA
4LNMEM	53.3	0.71	2.5	54.9	1.40	2.9	4	GA
62U7PJ	50.0	-0.62	2.5	50.4	-0.39	3.4	4	HG
677GFT	56.5	2.00 *	2.8	54.9	1.42	2.4	3	XX
6CR73N	54.3	1.11	2.1	53.5	0.86	2.0	4	LA
7VYVRQ	53.1	0.63	1.5	52.8	0.56	1.5	4	LP
8M4FGR	52.2	0.29	1.8	51.7	0.13	1.9	4	LP
ADBJUG	52.6	0.44	1.9	51.8	0.18	2.1	4	LA
FUVH32	50.3	-0.49	1.2	50.4	-0.39	1.0	2	LP
GEGH6B	48.8	-1.10	3.4	46.0	-2.16 *	3.6	4	XX
JGZ967	41.9	-3.86 X	2.2	41.6	-3.93 X	2.0	4	LA
KZMJ6B	48.4	-1.24	1.4	48.8	-1.03	2.6	3	LA
LQGYH9	54.0	1.00	1.8	52.2	0.34	1.8	4	LP
LYRZ4A	51.8	0.11	2.0	54.3	1.18	2.5	4	TL
QM4MTU	48.9	-1.05	4.1	48.9	-1.00	3.4	4	GG
QTQDFP	52.0	0.21	1.6	52.0	0.27	1.6	1	LA
RWKQDY	53.8	0.93	4.0	52.4	0.41	2.4	4	LP
UDJQEX	53.7	0.87	2.3	52.8	0.58	2.0	4	XX
UJPJ9T	52.1	0.25	2.4	52.6	0.48	2.5	4	TP
UTBKP4	49.9	-0.65	1.9	50.4	-0.40	2.0	4	HG

Consensus (All Labs) Results

Month Mean	51.51	Grand Mean	51.37
Avg SDr	2.40	Avg SDr	2.37
SD btwn Labs	2.48	SD btwn Labs	2.49
Labs Incd	21	Labs Incd	21

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer
 (HG) - Technidyne - Hagerty Model #1 and Profile System
 (LP) - L & W Air Permeance Tester SE 166
 (TP) - Technidyne Profile/ plus Roughness & Porosity

(GG) - Gurley Precision #4320 Densometer
 (LA) - L & W Autoline
 (TL) - Teledyne Gurley Densometer #4110, Oil Flotation
 (XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
 Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM81
 TAPPI Official Test Method T809



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2VFHZX	58.9	59.3	60.4	60.0	59.7	0.34	3.2	0.7	59.5	0.21	2.7	2.7	15	LZ
32KGBM	55.9	56.2	56.9	55.2	56.0	-1.26	2.7	0.7	60.5	0.77	2.8	4.2 H	16	LC
46EX2L	55.9 H	58.2	61.6	55.3	57.8	-0.50	4.2	2.9	57.8	-0.77	3.7	2.9	12	XX
6CR73N	56.5	55.8	59.6	58.7	57.7	-0.54	2.3	1.8	56.9	-1.26	2.5	2.6	16	LD
6PHZCW	55.8	55.6	57.2	58.2	56.7	-0.96	2.1	1.2	55.7	-1.90	2.7	1.2	16	LD
6WZ9ZT	62.1	63.5	63.1	60.4	62.3	1.49	2.9	1.4	61.9	1.53	2.7	1.1	16	EM
8F34KU	59.8	62.0	64.7 *	61.0	61.9	1.31	2.0	2.1	61.1	1.09	1.9	1.8	14	LE
8L8Z7F	60.6	59.6	56.2	58.5	58.7	-0.08	3.1	1.9	58.0	-0.61	4.8	2.8	12	MB
98UQ6C	57.4	56.8	55.0	60.6	57.4	-0.64	2.6	2.3	57.1	-1.15	2.6	2.3	12	MB
ABY4ZF	59.7	59.5	No DATA	No DATA	59.6	0.31	2.2	0.1 L	59.1	-0.02	2.3	1.2	6	LZ
ADBJUG	53.7 H	58.8 H	59.7	57.8 H	57.5	-0.61	4.8	2.6	59.1	-0.01	3.8	2.2	16	LC
ANC8LD	57.2	57.8	63.7 H	61.6 H	60.1	0.52	3.9	3.1	60.1	0.51	3.9	3.1	4	LC
B9QEBC	59.6	59.5	59.5	59.4	59.5	0.26	3.2	0.1 L	59.2	0.04	2.8	0.5	16	LD
BTYG9G	59.3	59.5	59.3	69.5 X	61.9	1.33	1.8	5.1 H	59.6	0.25	2.2	2.8	16	LD
C34NNG	62.0	61.2	61.2	61.7	61.5	1.16	1.8	0.4 L	61.4	1.27	2.3	0.8	16	LD
CBU73P	59.4	58.3 L	61.4	61.2	60.1	0.52	2.3	1.5	61.6	1.35	1.9	2.2	16	LD
CK3ZWH	57.4	57.0	56.0	55.4 L	56.5	-1.07	1.5	0.9	58.1	-0.58	1.8	1.5	16	LD
D49TEA	56.3	63.1	58.9	61.8	60.0	0.50	2.6	3.1	60.6	0.83	2.4	1.5	16	LZ
DCKR9L	58.6	59.2	58.3	59.1	58.8	-0.04	2.7	0.4 L	58.6	-0.33	2.5	0.5	16	LD
E4RYDZ	59.3	59.5	59.2	58.3	59.1	0.08	2.0	0.5	58.8	-0.19	2.1	0.6	8	LC
FYPK4F	57.9	56.3	57.6	57.3	57.3	-0.71	2.4	0.7	57.6	-0.85	2.1	0.8	16	EM
GQT4RG	58.8	59.3	58.4	59.0	58.9	-0.01	2.2	0.4 L	58.7	-0.25	2.4	0.5	16	LC
H8TEBD	57.9	57.2	59.2	58.4	58.2	-0.31	3.3	0.8	57.9	-0.68	2.9	0.7	16	LD
HY2VW6	64.0 *	61.0	61.5	59.1	61.4	1.10	2.8	2.0	59.6	0.26	2.6	2.2	16	LC
JKYMTV	57.7	60.9	59.9 L	60.2 L	59.7	0.34	1.8	1.4	59.8	0.36	2.0	0.8	12	TH
JWR782	60.5	61.5	41.1 X	No DATA	54.4	-1.98	1.6	11.5 H	59.5	0.21	1.8	5.1 H	15	LC
JYWXYE	56.8	55.5	55.4	56.2	56.0	-1.28	2.7	0.7	57.9	-0.70	2.6	1.5	16	LD
KC47GW	60.7	58.1	59.1 H	60.1	59.5	0.27	4.0	1.2	61.0	1.01	4.0	1.6	16	TG
KZMJ6B	61.0	60.7	61.0	60.4	60.8	0.82	1.9	0.3 L	61.5	1.30	2.0	1.2	12	LC
LQGYH9	62.0	61.2	61.8	No DATA	61.7	1.23	2.3	0.4	60.3	0.61	2.5	2.1	15	LC
MCEPEY	59.6	58.7	61.1	59.6	59.7	0.38	2.4	1.0	61.9	1.52	2.6	2.9	12	LC
N3H93Z	63.6	65.5 *L	64.4 L	61.6 L	63.7	2.14 *	1.6	1.7	63.3	2.29 *	1.6	2.3	16	TD
NGKH7A	56.6	58.2	56.4	54.4	56.4	-1.09	2.4	1.6	56.5	-1.45	3.0	1.1	8	LC
NXBHYU	58.0	58.0	59.2	58.6	58.4	-0.20	2.4	0.6	58.7	-0.26	2.5	1.3	16	TH
PVZ46T	58.6	No DATA	No DATA	No DATA	58.6	-0.12	2.2	0.0 L	58.0	-0.62	2.4	1.5	13	LD

Containerboard Interlaboratory Testing Program
 Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM81
 TAPPI Official Test Method T809



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
QTQDFP	57.8	60.1	58.9	58.4	58.8	-0.04	2.4	0.9	58.2	-0.56	2.4	1.1	16	LD
QVU783	54.6	55.3	53.9	53.2 *	54.3	-2.04 *	2.6	0.9	42.9	-9.00 X	2.0	15.4 H	8	TX
RWKQDY	57.3	57.1	57.0	57.7	57.3	-0.70	2.7	0.3 L	57.7	-0.81	2.6	0.7	16	LZ
TMBL29	60.3	62.0	63.1	60.0	61.4	1.08	2.4	1.5	58.4	-0.43	2.5	3.4	16	LC
UDJQEX	61.8	60.2	59.2	60.1	60.3	0.63	2.6	1.1	60.1	0.51	2.5	0.7	16	LD
UJPI9T	61.6	62.2	59.0	59.9	60.7	0.79	3.4	1.5	60.3	0.64	3.1	1.9	16	LC
VYGGBN	52.4 *	51.8 X	52.6 *	56.2	53.3	-2.48 *	3.5	2.0	61.4	1.26	3.4	6.2 H	16	XX
WAWMMH	59.1	60.6	58.9	55.7	58.6	-0.14	2.5	2.1	55.6	-1.99	3.1	2.6	16	LZ
WJ2U3H	61.0	63.1	60.5	62.3	61.7	1.24	2.0	1.2	59.8	0.36	2.1	1.6	16	MB
XFUYTY	59.0	60.1	59.5	58.9	59.4	0.21	2.3	0.6	57.8	-0.74	2.3	1.2	16	LD
YJ9UAW	55.1	57.2	NO DATA	55.7	56.0	-1.27	3.4	1.1	55.5	-2.06 *	3.9	1.6	14	LC

Consensus (All Labs) Results											
Wk Mean	58.67	59.33	59.27	58.71	Month Mean	58.89				Grand Mean	59.15
Avg SDr	2.86	2.71	2.54	2.73	Avg SDr	2.69				Avg SDr	2.73
SD btwn Labs	2.50	2.36	2.67	2.24	SD btwn Labs	2.27				SD btwn Labs	1.80
Labs Incd	46	44	42	41	SD btwn Wks	2.36				SD btwn Wks	2.24
Labs Excl	0	1	1	1	Labs Incd	46				Labs Incd	45
Labs not rcvd	0	1	3	4							

Instrument Code List as Reported by the Labs

- | | |
|---|---|
| (EM) - Emerson 1200 Series | (LC) - L & W Crush Tester 48 |
| (LD) - L&W Crush Tester 248 | (LE) - I & W CRUSH TESTER 275 |
| (LZ) - L & W Crush Tester (model not specified) | (MB) - Messmer Buchel K440 |
| (TD) - TMI Digital Crush Tester, Model 17-09 | (TG) - TMI Compression Tester, Model 17-10 |
| (TH) - TMI Compression Tester, Model 17-76 | (TX) - TMI Crush Tester (model not specified) |
| (XX) - Instrument make/model not specified by lab | |

Containerboard Interlaboratory Testing Program
 Analysis 250
Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM81
 TAPPI Official Method T824



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
2AVJWN	67.3	67.1	67.7	67.5	67.4	0.27	1.6	0.2 L	69.6	0.71	1.4	2.0	16	XX
2VFHZX	64.5	71.2	70.5	72.9	69.8	0.76	2.9	3.7	69.0	0.58	3.2	2.7	15	LZ
6CR73N	70.2	69.7	71.0	71.4	70.6	0.92	2.0	0.8	68.9	0.57	2.1	1.5	16	LD
8F34KU	66.1	64.8	65.9	65.2	65.5	-0.13	2.5	0.6	65.1	-0.24	2.3	1.5	14	LE
8L8Z7F	58.3	55.9	56.5 *	57.6	57.1	-1.88	1.8	1.1	55.6	-2.23 *	1.9	2.8	12	MB
BTYG9G	69.1	69.9	69.3	58.9	66.8	0.14	1.8	5.3 H	67.0	0.15	1.9	2.9	16	LD
C34NNG	69.6	69.6	69.3	69.4	69.5	0.70	2.2	0.2 L	69.7	0.72	2.3	0.8	12	XX
CBU73P	64.8	64.7	65.8	64.9	65.0	-0.23	1.8	0.5	63.7	-0.53	1.9	1.8	16	LD
D49TEA	57.0 H	53.3 *H	56.2 *H	56.4 H	55.7	-2.16 *	5.5	1.6	57.7	-1.79	4.9	5.5 H	8	XX
LQGYH9	61.3	63.3	63.5	No DATA	62.7	-0.71	2.1	1.2	64.0	-0.48	1.9	1.9	15	XX
N3H93Z	69.7 L	68.9 L	72.1	70.5 L	70.3	0.87	1.2	1.4	70.8	0.95	1.2	1.3	16	TD
QTQDFP	61.7	67.4	65.4	67.3	65.4	-0.14	2.5	2.7	65.4	-0.17	2.5	2.7	4	LD
UDJQEX	67.0	69.6	70.1	68.4	68.8	0.56	2.3	1.4	69.6	0.70	2.1	1.2	12	XX
UJPI9T	71.7	71.8	70.4	70.7	71.1	1.04	2.0	0.7	71.3	1.06	2.0	1.6	16	LC

Consensus (All Labs) Results									
Wk Mean	65.60	66.23	66.68	66.23	Month Mean	66.12	Grand Mean	66.24	
Avg SDr	2.45	2.55	2.60	2.40	Avg SDr	2.50	Avg SDr	2.41	
SD btwn Labs	4.56	5.55	5.03	5.43	SD btwn Labs	4.80	SD btwn Labs	4.75	
Labs Includ	14	14	14	13	SD btwn Wks	2.06	SD btwn Wks	2.43	
Labs Exclud	0	0	0	0	Labs Includ	14	Labs Includ	14	
Labs not rcvd	0	0	0	1					

Instrument Code List as Reported by the Labs

- (LC) - L & W Crush Tester 48
- (LE) - L & W CRUSH TESTER 275
- (MB) - Messmer Buchel K440
- (XX) - Instrument make/model not specified by lab
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TD) - TMI Digital Crush Tester, Model 17-09

Containerboard Interlaboratory Testing Program
 Analysis 255
 Ring Crush (RCT), 26 lb Corrugating Medium - CM81
 TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results					Cumulative Results				
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
32KGBM	19.5 X	19.7 XL	19.6 X	19.6 X	19.6	-10.30 X	1.9	0.1 L	24.7	-7.40 X	2.2	3.9 H	12	XX
6CR73N	40.5	38.1	38.1	38.6	38.8	-0.07	1.9	1.1	38.9	0.26	1.9	1.2	16	LD
8L8Z7F	29.9 X	30.2 XH	27.1 X	30.2 X	29.4	-5.10 X	2.7	1.5	29.1	-5.04 X	2.3	1.5	12	MB
9LQ3DF	39.4	39.4	38.7	39.9	39.4	0.20	1.7	0.5	39.7	0.68	2.1	2.1	16	TH
ABY4ZF	40.0	38.0	No DATA	No DATA	39.0	0.03	1.6	1.4	35.7	-1.49	1.7	2.7	6	EM
ANC8LD	38.2	40.4	39.0	37.4	38.7	-0.12	2.1	1.3	38.7	0.16	2.1	1.3	4	LD
B9QEBC	37.7	37.8	37.8	37.6 H	37.7	-0.66	2.8	0.1 L	37.7	-0.40	2.4	0.5	16	LD
C34NNG	40.5	40.5	39.8	40.7	40.4	0.74	1.7	0.4	40.0	0.85	1.8	0.6	16	LD
CN2EK8	37.4	35.8	36.1 L	36.3	36.4	-1.36	1.2	0.7	35.7	-1.46	1.0	0.7	16	WK
E4RYDZ	39.8	40.6	40.9	40.3	40.4	0.75	1.9	0.5	40.1	0.88	2.0	0.5	8	WK
FYPK4F	41.9	40.7	40.4	42.0	41.2	1.20	1.8	0.8	39.0	0.28	1.6	1.6	16	LC
HY2VW6	37.1	34.8	35.1	36.7	35.9	-1.62	1.5	1.1	35.6	-1.51	1.5	0.9	16	LC
JKYMTV	36.9	36.3	38.4 L	39.2	37.7	-0.67	1.5	1.3	35.5	-1.58	1.5	2.4	12	TH
JWR782	43.7 *	43.8 *	61.2 X	No DATA	49.5	5.62 X	1.4	10.1 H	40.5	1.11	1.5	6.4 H	15	LC
KZ8ZMY	32.5 XH	36.9 H	37.2	38.1	36.2	-1.49	3.3	2.5 H	37.1	-0.73	3.5	2.2	16	LZ
KZMJ6B	42.6	42.3	42.7	44.1 *	42.9	2.12 *	1.8	0.8	41.1	1.42	1.7	2.7	12	LD
PVZ46T	40.2	No DATA	No DATA	No DATA	40.2	0.64	2.4	0.0 L	40.5	1.09	2.0	1.3	13	LD
QTQDFP	38.5 H	39.8	41.6	40.9	40.2	0.65	2.3	1.3	39.8	0.74	2.1	1.4	16	LD
QVU783	25.2 XH	28.6 XH	26.3 XH	26.8 XH	26.7	-6.51 X	3.4	1.4	26.1	-6.64 X	3.6	1.7	12	TX
UDJQEX	37.9	36.5	37.1	36.2	36.9	-1.08	2.1	0.8	37.0	-0.76	2.1	1.0	16	LD
UJJP9T	40.1	40.6	40.2	40.4	40.3	0.71	1.9	0.2	38.4	-0.03	1.9	2.0	16	LC
WAWMMH	36.4	37.9	38.5	38.4	37.8	-0.62	2.3	1.0	37.4	-0.58	2.0	1.5	16	EM
XFUYTY	40.7	40.9	40.0	39.1	40.2	0.64	1.7	0.8	40.4	1.07	1.7	1.3	16	LZ

Consensus (All Labs) Results									
Wk Mean	39.44	39.00	38.92	39.17	Month Mean	38.97	Grand Mean	38.44	
Avg SDr	1.91	2.00	2.00	1.94	Avg SDr	2.03	Avg SDr	1.97	
SD btwn Labs	2.00	2.36	1.97	2.13	SD btwn Labs	1.88	SD btwn Labs	1.86	
Labs Includ	19	19	17	17	SD btwn Wks	1.08	SD btwn Wks	2.13	
Labs Exclud	4	3	4	3	Labs Includ	19	Labs Includ	20	
Labs not rcvd	0	1	2	3					

Containerboard Interlaboratory Testing Program
Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM81
TAPPI Official Test Method T822



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

(TX) - TMI Digital Crush Tester (model not specified)

(XX) - Instrument make/model not specified by lab

(LC) - L & W Crush Tester 48

(LZ) - L & W Crush Tester (model not specified)

(TH) - TMI Compression Tester, Model 17-76

(WK) - Zwick Z005 Crush Tester

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM81

TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results				Inst	
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks		Wks
677GFT	14.0 L	13.8 L	13.6 L	13.5 L	13.7	1.39	0.1	0.2	13.1	0.46	0.1	1.1	12	BK
6CR73N	12.6	12.0	12.9	12.5	12.5	-0.90	0.8	0.4	12.4	-0.83	0.7	0.4	16	LA
98UQ6C	No DATA	12.0 L	12.0 L	12.0 L	12.0	-1.82	0.0	0.0 L	11.8	-2.12 *	0.0	0.8	11	LA
BTYG9G	13.1	13.0	12.6	13.2	13.0	0.01	0.7	0.3	12.9	0.15	0.7	0.3	16	LA
D49TEA	12.3	12.8	11.9	12.5	12.4	-1.15	0.7	0.4	12.3	-1.07	0.7	0.3	16	LW
DCKR9L	12.8	12.9	12.9	13.0	12.9	-0.15	0.8	0.1	12.8	-0.14	0.8	0.2	16	LB
E4RYDZ	13.6	13.9	13.7	13.6	13.7	1.36	0.7	0.1	13.2	0.79	0.7	0.5	8	LB
FYPK4F	12.7	12.8	12.5	12.0	12.5	-0.87	0.7	0.3	12.3	-1.17	0.7	0.6	16	LB
GQT4RG	12.8	13.1	12.9	12.8	12.9	-0.19	0.7	0.1	12.8	-0.14	0.7	0.2	16	LB
JWR782	13.2	12.8	13.1	No DATA	13.1	0.16	0.6	0.2	13.2	0.73	0.6	0.4	15	XX
JYWXYE	12.2	12.5	12.3	12.3	12.3	-1.18	0.9	0.1	12.4	-0.81	0.9	0.2	12	LU
KZ8ZMY	14.1	13.1	13.1	13.0	13.3	0.66	0.9	0.5	13.4	1.11	0.8	0.7	16	LA
KZMJ6B	13.6	13.4	14.1 *	14.0	13.8	1.50	0.6	0.4	13.5	1.21	0.6	1.0	12	LA
NXBHYU	13.3	13.3	13.3	13.6	13.4	0.73	0.6	0.1	12.9	0.05	0.7	0.7	16	TT
PVZ46T	13.3	No DATA	No DATA	No DATA	13.3	0.59	0.8	0.0 L	13.2	0.74	0.8	0.8	13	LZ
QTQDFP	13.6	13.1	12.8	13.3	13.2	0.41	0.9	0.3	13.1	0.42	0.8	0.6	16	LA
QVU783	12.9 L	13.0 L	12.2 L	11.9 L	12.5	-0.83	0.0	0.5	17.8	9.83 X	0.0	5.4 H	16	TS
RL48U3	13.1	13.3	13.3	13.2	13.2	0.50	0.8	0.1	13.7	1.77	0.9	2.3 H	16	LA
RWKQDY	12.1	12.6	12.5	12.0	12.3	-1.30	0.8	0.3	12.4	-0.95	0.7	0.4	16	LB
UJPI9T	12.5	12.5	12.9	12.5	12.6	-0.69	0.6	0.2	12.3	-1.00	0.7	0.3	16	LU
WAWMMH	13.4	12.8	13.1	12.9	13.1	0.14	0.7	0.3	12.6	-0.44	0.6	0.7	16	LZ
YJ9UAW	13.7	13.6	No DATA	14.2	13.9	1.63	0.7	0.3	13.5	1.26	0.9	0.9	15	LW

Consensus (All Labs) Results

Wk Mean	13.09	12.95	12.89	12.90	Month Mean	12.97	Grand Mean	12.84
Avg SDr	0.76	0.67	0.64	0.69	Avg SDr	0.69	Avg SDr	0.71
SD btwn Labs	0.58	0.50	0.57	0.68	SD btwn Labs	0.54	SD btwn Labs	0.51
Labs Includ	21	21	20	20	SD btwn Wks	0.28	SD btwn Wks	0.79
Labs Exclcd	0	0	0	0	Labs Includ	22	Labs Includ	21
Labs not rcvd	1	1	2	2				

Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM81
TAPPI Provisional Test Method T826



Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LB) - L & W Model 152

(LW) - L & W 53 with moisture correction (was 53M)

(TS) - TMI Monitor/STFI Compression Tester, 17-33

(XX) - Instrument make/model not specified by lab

(LA) - L & W Autoline

(LU) - L & W 52 without moisture correction (was 53)

(LZ) - L & W (model not specified)

(TT) - TMI Short Span Compression, 17-34 (MB K455)