Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample Lot	Analysis Name
201	BOX8	Box Compression Strength, Corrugated Boxes
202	ECT7	Edgewise Compressive Strength, Wax (T811), Corrugated board
203	ECT7	Edgewise Compressive Strength by Clamp (T839), Corrugated board
205	42B3	Mullen Burst of Linerboard, 42 lb Linerboard
206	69C1	Mullen Burst of Linerboard, 69 lb Linerboard
215	42B3	Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard
216	69C1	Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard
223	42B3	STFI of Linerboard, 42 lb Linerboard
224	69C1	STFI of Linerboard, 69 lb Linerboard
228	69C	Roughness - Stylus Method, 69 lb Linerboard
231	36Z	Internal Bond Strength, Linerboard, 36 lb Linerboard
234	36Z	Coefficient of Static Friction - Inclined Plane, 36 lb Linerboard
237	36Z	Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard
240	CM73	Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium
250	CM73	Fluted Crush of Medium, 26 lb Corrugating Medium
255	CM73	Ring Crush of Medium, 26 lb Corrugating Medium
261	CM73	STFI of Medium, 26 lb Corrugating Medium

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.

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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, Corrugtaed 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	36Z1	June 2010 - December 2011
	36Z2	February 2012 -
42# Linerboard	42B2	June 2012 - April 2013
	42B3	June 2013 -
69# Linerboard	69A2	January 2013 - September 2013
	69C1	November 2013 -
Corrugating Medium	CM73	December 2012 -

<h1 style="text-align:center;color:green">EXPLANATION OF TABLES</h1>

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.

<h2 style="text-align:center;color:green">Definitions of Terms Used</h2>

Weekly Results

Laboratory Data

WebCode   - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each analysis 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 Incl   - The number of laboratory Means included in the Wk Mean for that week.

Labs Excld   - 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   - For each laboratory, the average of all the weekly Means reported for this month.

CPV   - **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 Wks   - 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 Wks   - For the current month, the average of the laboratory between week standard deviations (SD Wks') for all the participants.

Labs Incl   - The number of laboratory Means included in the Month Mean.

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 Wks- 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.

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 Wks   - For the cumulative period, the average of the laboratory between week standard deviations for all the participants.
    Labs Incl   - The number of laboratory Means included in the Grand Mean.

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:

Flag   Explanation

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 required.
    *   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 variabilty between weekly means (high week-to-week variation).
    L   Indicates low variabilty between weekly means (low week-to-week variation).

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Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX8
TAPPI Official Test Method T804

WebCode	Monthly Results Mean	CPV	SDr	Cumulative Results Mean	CPV	SDr	Months	Inst
3AZ78L	851.1	0.85	30.5	791.2	-0.26	29.2	3	LM
4LA7EY	806.9	-0.01	36.7	795.4	-0.17	39.6	2	EX
73NJM8	740.8	-1.29	31.4	791.2	-0.26	44.3	3	ER
7HXC9P	814.4	0.14	15.1	803.1	0.00	27.9	3	ER
9FLETX	855.4	0.93	31.7	832.8	0.67	31.8	3	LN
ABNYXV	762.5	-0.87	18.3	812.6	0.22	24.2	3	TE
BBQZL3	770.6	-0.71	28.9	752.1	-1.14	67.3	3	ER
CLWLYR	839.4	0.62	19.5	830.2	0.61	20.7	2	LL
E32L98	904.6	1.89	39.1	823.5	0.46	36.5	3	LO
H42WEX	741.4	-1.28	71.7	783.3	-0.44	68.5	3	LS
HGLKC3	824.0	0.32	59.2	817.6	0.33	62.3	3	LG
JMQQJT	813.4	0.12	44.4	782.0	-0.47	47.8	3	ES
JR2LLG	910.2	2.00	81.0	910.8	2.41*	69.1	3	LH
M9X8EE	828.1	0.40	55.7	782.3	-0.46	61.8	3	LG
NPEZD2	709.0	-1.90	43.4	708.3	-2.12*	51.5	3	LG
PTBNNG	787.0	-0.39	46.7	787.0	-0.36	46.7	1	LS
Q7ZXW9	775.6	-0.61	20.3	774.8	-0.63	25.4	3	TB
RW6ETJ	843.6	0.70	43.5	873.8	1.59	30.9	3	TS
UTCA66	764.0	-0.84	93.6	764.0	-0.87	93.6	1	LS
V2PJCX	850.0	0.83	30.1	874.7	1.61	19.9	3	LM
ZRABLY	798.6	-0.17	40.9	814.7	0.26	34.9	3	LG
ZZFFBU	768.8	-0.75	25.5	758.5	-0.99	36.8	3	LL

Consensus (All Labs) Results

Month Mean	807.24		Grand Mean	802.90
Avg SDr	45.82		Avg SDr	47.99
SD btwn Labs	51.58		SD btwn Labs	44.71
Labs Incld	22		Labs Incld	22

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	774.58	38.06	32.66	5
Clip sealing	815.39	50.07	8.15	13
Tape sealing	821.57	65.78	14.33	4

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX8
TAPPI Official Test Method T804

Instrument Code List as Reported by the Labs

(ER) - Emerson 6200 Series

(EX) - Emerson Apparatus (Model not specified)

(LH) - L.A.B. Compression Tester Model #10610

(LM) - Lansmont 122-15k

(LO) - Lansmont 152-30k

(TB) - TMI Monitor/Compression Tester, Model 17-70

(TS) - Tinus Olsen Model CTM

(ES) - Emerson 8510

(LG) - TLS / L.A.B. Validator Series

(LL) - Lansmont 76-5K

(LN) - Lansmont 152-50k

(LS) - Lansmont Squeezer

(TE) - Testometric M500 - 25 KN

Containerboard Interlaboratory Testing Program
Analysis 202
Edgewise Compressive Strength, by T811, Corrugated board - ECT7
TAPPI T811

WebCode	Monthly Results			Cumulative Results				
	Mean	**CPV**	**SDr**	**Mean**	**CPV**	**SDr**	**Months**	**Inst**
7HXC9P	41.0	0.45	1.0	41.0	0.75	1.0	1	EM
9FLETX	41.2	0.53	1.5	41.3	0.93	1.4	4	EN
BW428L	38.9	-0.51	2.3	40.2	0.30	1.9	4	XX
H42WEX	38.8	-0.52	1.6	39.8	0.06	1.5	4	LC
HGLKC3	43.9	1.73	2.3	42.6	1.69	2.1	4	LC
KAXLR8	39.3	-0.31	1.0	38.6	-0.66	1.5	3	TB
MTHCWW	42.7	1.21	3.7	37.8	-1.14	2.6	4	TD
NUTCVC	37.3	-1.22	1.6	37.0	-1.60	1.6	4	LC
PTBNNG	40.1	0.03	2.0	40.1	0.20	2.0	1	EM
Z4LNW9	36.9	-1.40	0.8	38.8	-0.54	0.8	3	WK

Consensus (All Labs) Results

Month Mean	40.00	**Grand Mean**	39.71	
Avg SDr	1.97	**Avg SDr**	1.70	
SD btwn Labs	2.25	**SD btwn Labs**	1.71	
Labs Incld	10	**Labs Incld**	10	

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

(TB) - TMI Monitor/Compression Tester, Model 17-70

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

(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 - ECT7
TAPPI T839
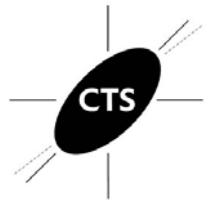
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
364LZG	42.0	-0.43	0.9	43.2	0.65	1.0	4	TG
3AZ78L	43.3	0.34	1.2	42.0	-0.24	1.4	4	EM
3XAAAU	42.1	-0.36	1.2	41.8	-0.33	1.6	4	TM
4LA7EY	40.9	-1.06	1.1	42.1	-0.16	1.2	4	TL
73NJM8	41.7	-0.58	1.5	42.0	-0.19	1.5	4	EN
7PFMFX	42.6	-0.07	0.7	42.0	-0.23	1.3	4	TB
7XDD6F	41.8	-0.55	2.0	42.6	0.21	1.6	4	LC
97G6QE	41.8	-0.56	2.1	42.7	0.25	1.8	4	LD
9FLETX	44.0	0.77	1.3	43.2	0.62	1.6	4	EN
BBQZL3	45.9	1.85	1.0	44.5	1.53	1.2	4	LD
BWK43Z	45.0	1.32	1.3	43.3	0.69	1.8	4	LD
CLWLYR	42.4	-0.20	1.0	42.5	0.13	1.0	3	BU
E32L98	41.2	-0.91	1.5	40.5	-1.29	1.5	4	EN
GJV382	42.9	0.12	1.6	39.1	-2.29*	2.5	4	LD
H42WEX	44.2	0.87	1.5	42.7	0.29	1.5	4	LC
HGLKC3	42.6	-0.10	1.9	42.2	-0.06	2.2	4	LC
JMQQJT	46.6	2.25 *	1.4	43.1	0.53	1.9	4	LD
JR2LLG	42.2	-0.32	1.5	42.6	0.18	1.9	4	EM
KAXLR8	40.7	-1.18	1.5	40.3	-1.42	1.4	4	TG
M9X8EE	40.9	-1.08	2.5	40.5	-1.27	2.5	4	EM
NPEZD2	39.7	-1.75	1.1	40.4	-1.34	1.4	4	TB
NUTCVC	42.6	-0.04	1.5	42.9	0.42	1.5	4	LC
PTBNNG	44.0	0.76	2.5	44.0	1.22	2.5	1	EM
Q7ZXW9	43.6	0.53	0.6	43.8	1.06	0.7	4	LC
RW6ETJ	46.0	1.87	1.1	45.3	2.13*	1.3	4	CT
UA2KR8	45.2	1.41	1.0	43.7	0.99	1.0	4	LC
UURPFK	41.0	-0.99	1.6	41.7	-0.41	1.4	4	MB
V2PJCX	41.5	-0.71	0.8	41.8	-0.32	1.3	4	TC
WKDM8P	40.7	-1.17	1.8	39.4	-2.07*	1.7	4	TK
XF4J49	42.3	-0.24	1.4	43.2	0.61	1.8	4	XX
ZZFFBU	43.0	0.18	2.2	42.5	0.11	1.8	4	LC

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT7
TAPPI T839
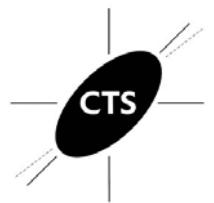
Consensus (All Labs) Results

Month Mean	42.71		Grand Mean	42.30
Avg SDr	1.51		Avg SDr	1.64
SD btwn Labs	1.73		SD btwn Labs	1.42
Labs Incld	31		Labs Incld	31

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester	(CT) - Con-Ten
(EM) - Emerson 1200 Series	(EN) - Emerson 2200
(LC) - L&W Crush Tester 48	(LD) - L&W Crush Tester 248
(MB) - Minebea	(TB) - TMI Monitor/Compression Tester, Model 17-70
(TC) - TMI Monitor/Compression Tester, Model 17-37	(TG) - TMI Digital Crush Tester, 17-76
(TK) - TLS Compression Tester, Model 5184	(TL) - Tech-Lab Systems Compression
(TM) - TMI/Hinde & Dausch	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B3
TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	**Week 1**	**Week 2**	**Week 3**	**Week 4**	**Mean**	**CPV**	**SDr**	**SD Wk**	**Mean**	**CPV**	**SDr**	**SD Wk**	**Wks**	**Inst**
33HXMV	104.0	107.6	102.8	106.0	105.1	0.19	9.0	2.1	107.1	0.68	10.3	4.4	16	AH
3AZ78L	101.0	103.4	106.9	104.4	103.9	-0.12	7.3	2.5	102.1	-0.63	7.4	2.4	16	AH
3PUTEY	109.6	105.8	107.5	106.9	107.5	0.80	11.9	1.6	106.2	0.44	10.7	3.1	12	LC
3RGGTK	106.6	105.6	102.2	103.5	104.5	0.03	9.9	2.0	106.8	0.61	10.3	2.8	16	LJ
48PP7T	107.8	107.5 L	106.0	107.1	107.1	0.71	5.1	0.8	107.4	0.79	4.4	1.3	16	LA
4KRE3T	98.2	98.7	104.4	97.6	99.7	-1.20	8.7	3.2	101.0	-0.94	9.7	4.2	16	LC
6D97J3	No Data	No Data	111.3	112.1	111.7	1.90	9.8	0.6 L	109.5	1.33	10.5	2.9	14	TB
76EMFE	100.9	102.8	103.6	99.8	101.8	-0.67	9.0	1.7	102.5	-0.54	8.9	1.8	16	LZ
7CWVY6	108.9	111.2 L	109.3	108.3	109.4	1.31	5.0	1.3	109.4	1.31	4.8	1.2	16	XX
829GDD	107.9 H	104.9	100.0	98.1	102.7	-0.42	11.7	4.5	102.7	-0.49	11.1	2.7	16	AX
8DKR4N	111.5	111.8	109.1	105.7	109.5	1.34	10.7	2.8	109.7	1.39	11.3	2.3	16	LC
97G6QE	105.8	106.8	106.0	105.8	106.1	0.45	6.8	0.4 L	107.0	0.68	8.5	1.8	16	TB
9LRQ9J	113.5 *	109.6	103.9	100.2	106.8	0.63	9.1	5.9	112.2	2.05 *	14.5	5.1	16	AH
9QNEPQ	99.2	105.2	102.7	107.6	103.7	-0.18	8.2	3.6	105.3	0.21	9.7	4.9	8	LA
ABNYXV	100.9 L	99.8	No Data	No Data	100.4	-1.04	4.0	0.8	100.2	-1.16	3.6	0.6 L	6	AH
ARUJFK	101.0	105.0	110.4	106.3	105.7	0.34	10.9	3.9	107.4	0.77	10.6	3.4	16	LZ
AVD8GK	103.2	104.7	108.1	107.6	105.9	0.40	9.5	2.3	105.2	0.19	11.0	2.3	16	LA
BAQ3AL	103.5	104.0	104.8	105.1	104.4	0.00	7.1	0.7	104.2	-0.08	7.0	1.2	16	AH
BBQZL3	100.6	103.2	102.5	99.4	101.4	-0.76	10.8	1.7	104.1	-0.10	10.2	5.5	16	AH
BGPLBG	104.6 L	103.6	104.9 L	105.0	104.5	0.04	5.5	0.7	104.9	0.11	5.1	1.2	16	AH
C3NC2F	110.4	109.0	110.5	114.5 *	111.1	1.74	11.3	2.4	111.7	1.93	11.6	2.6	16	LA
DWRAAL	113.3 *	101.7	102.1	76.6 XL	98.4	-1.54	7.3	15.5 H	98.4	-1.62	7.3	15.5 H	4	LA
EJN2C4	108.3	108.7	111.2	109.7	109.5	1.33	10.8	1.3	110.8	1.68	11.1	2.6	16	LA
FGUWUG	106.1	105.7	103.4	103.8	104.8	0.10	6.3	1.3	104.7	0.06	7.0	1.9	16	TB
GELY3K	100.3	103.4	103.1	101.4	102.1	-0.60	13.1	1.4	103.1	-0.38	10.9	2.4	15	LA
GJV382	104.4	109.2	106.6	105.6	106.5	0.54	9.6	2.0	106.4	0.50	10.0	2.6	16	AA
H42WEX	109.9	112.3	111.3	106.4	109.9	1.44	9.2	2.6	108.5	1.07	10.3	3.0	16	AH
H8YC49	106.1	113.7 *	111.3 L	104.4	108.9	1.17	7.1	4.4	112.2	2.05 *	9.3	5.9	16	TB
HGLKC3	109.7	108.5	111.1	102.7	108.0	0.94	12.8	3.7	109.5	1.34	11.5	3.7	16	LZ
HWLALG	102.3	99.9	101.1	98.1	100.3	-1.04	14.3	1.8	102.6	-0.50	11.1	3.6	16	LC
JLFQLY	107.5	103.2	100.0	104.4	103.8	-0.15	9.1	3.1	104.1	-0.11	9.9	2.6	14	LA
JMQQJT	103.6	102.2	103.4	101.3	102.6	-0.45	10.7	1.1	103.1	-0.37	10.3	2.6	16	LA
M6DF6W	100.1	97.5	93.1 *	99.1	97.4	-1.79	7.7	3.1	100.6	-1.04	10.2	3.1	15	TB
MKM73V	102.8 L	105.1	102.4	107.9	104.6	0.05	8.6	2.5	104.6	0.02	8.3	3.7	16	LC
MMY2PM	104.2	97.0	108.3	No Data	103.2	-0.31	10.2	5.7	103.5	-0.26	11.3	3.1	15	AH
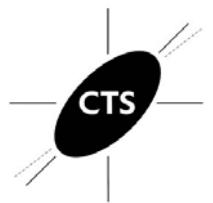
Report #534

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B3
TAPPI Official Test Method T807

WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
	Weekly Means				**Monthly Results**				**Cumulative Results**					
MNAVGG	100.2	103.6 L	101.0	100.1	101.2	-0.81	5.3	1.6	100.9	-0.95	6.1	2.0	12	RE
MZKGQ2	99.8 L	107.1	102.3	104.6	103.5	-0.24	8.5	3.1	102.7	-0.49	9.3	3.3	14	LA
NMBZGB	97.6	103.7	97.4	106.2	101.2	-0.81	9.8	4.4	99.5	-1.33	9.2	3.3	16	XX
NPEZD2	96.9	105.1	99.0	101.5	100.6	-0.97	9.9	3.5	100.0	-1.20	9.3	2.5	16	LA
PA3J7Y	98.5 L	98.0 L	98.7 L	98.7 L	98.5	-1.52	3.6	0.3 L	100.7	-1.00	3.7	3.1	8	XX
PMRCYF	99.3	101.6	97.1	98.1	99.0	-1.38	9.9	1.9	99.2	-1.41	9.6	2.1	16	LA
R2LMEX	105.8	103.0	96.8	109.1	103.7	-0.17	11.5	5.2	103.4	-0.30	10.1	3.7	16	LJ
RW6ETJ	111.9 H	108.3	109.1	104.3	108.4	1.04	17.9	3.1	105.1	0.17	14.2	5.3	16	XX
TY7XBC	107.9	94.2 *	105.6	100.0	101.9	-0.63	7.4	6.1	104.0	-0.13	7.7	3.6	16	LC
WVXPWC	104.1	105.5	109.2	113.7 *	108.1	0.97	11.7	4.3	106.0	0.40	10.1	3.4	15	LC
WXJDAX	102.9	103.6	No Data	No Data	103.3	-0.29	10.3	0.5 L	97.8	-1.79	10.4	5.1	11	TB
WZCJEU	105.2	108.4	108.4	No Data	107.3	0.77	7.7	1.8	105.0	0.14	10.3	2.8	15	LC
XF4J49	96.8	98.8	94.4 *	95.4	96.3	-2.08 *	8.5	1.9	96.4	-2.16 *	10.5	2.8	16	LA
YL2H4W	122.8 X	115.2 *	111.2	106.4	113.9	2.47 *	11.1	6.9	117.2	3.39 X	11.7	7.6 H	16	XX
YW7FZD	100.4	102.7	101.3	96.6	100.3	-1.06	11.2	2.6	102.1	-0.64	10.0	2.7	16	LC
ZRABLY	103.9	103.9	105.2	102.7	103.9	-0.11	7.8	1.0	104.9	0.11	9.5	1.2	16	AH
ZWZRRX	104.0	100.8	102.6	104.7	103.0	-0.35	9.0	1.7	103.0	-0.39	9.0	1.7	4	LC

Consensus (All Labs) Results

Wk Mean	104.26	104.74	104.49	104.00	**Month Mean**	104.36		**Grand Mean**	104.50		
Avg SDr	9.49	9.87	9.71	9.39	**Avg SDr**	9.57		**Avg SDr**	9.66		
SD btwn Labs	4.37	4.33	4.68	4.37	**SD btwn Labs**	3.86		**SD btwn Labs**	3.75		
Labs Incld	50	51	50	47	**SD btwn Wks**	3.67		**SD btwn Wks**	3.83		
Labs Excld	1	0	0	1	**Labs Incld**	52		**Labs Incld**	51		
Labs not rcvd	1	1	2	4							

Instrument Code List as Reported by the Labs

(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LC) - L & W Autoline	(LJ) - L & W Bursting Strength Tester J-Type
(LZ) - L & W (model not specified)	(RE) - Regmed/Mullen Tester
(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 - 69C1
TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
33HXMV	148.4	153.8	151.0	150.0	150.8	-1.56	10.0	2.3	153.9	-0.88	11.8	3.5	12	AH
3AZ78L	162.3	153.3	161.4	155.6	158.1	-0.13	7.7	4.4	158.3	-0.04	9.9	3.1	12	AH
3PUTEY	151.1	156.3	149.1	159.1	153.9	-0.96	10.0	4.6	153.2	-1.01	11.1	3.4	12	LC
3RGGTK	156.7	165.2 H	163.0	154.0	159.7	0.17	14.2	5.2	158.7	0.05	12.7	4.3	12	LJ
48PP7T	168.7	169.7	168.6	166.6 L	168.4	1.86	5.4	1.3	166.4	1.51	5.5	3.0	12	LA
4KRE3T	150.2	155.7	148.5	154.8	152.3	-1.27	10.8	3.5	151.2	-1.39	11.2	2.8	12	LC
6D97J3	No Data	No Data	171.3 *	163.5 H	167.4	1.66	16.3	5.5	166.6	1.54	11.9	3.7	10	TB
76EMFE	155.5	150.9	157.6	152.9	154.2	-0.90	9.7	2.9	153.7	-0.91	12.1	2.6	12	LZ
7CWVY6	157.2 L	157.2 L	157.6 L	157.4	157.4	-0.29	4.8	0.2 L	156.8	-0.32	5.1	0.9	12	XX
829GDD	166.5	157.7	159.2	151.3	158.7	-0.02	13.7	6.2	159.1	0.11	11.6	5.6	12	AX
8DKR4N	163.4	162.2	154.5	159.9	160.0	0.22	12.5	4.0	159.6	0.21	11.8	2.4	12	LC
97G6QE	158.5	163.8	153.7	156.5	158.1	-0.14	8.4	4.3	159.8	0.25	8.7	3.4	12	TB
9LRQ9J	160.6	160.2	159.4 L	160.0	160.1	0.24	10.3	0.5 L	158.7	0.04	12.2	5.3	12	AH
9QNEPQ	102.2 X	106.1 X	159.2	159.5	131.7	-5.27 X	8.8	31.9 H	131.7	-5.08 X	8.8	31.9 H	4	LA
ABNYXV	155.1	153.6	No Data	No Data	154.4	-0.87	9.2	1.1	155.6	-0.54	8.2	1.9	6	AH
ARUJFK	163.9	159.8	158.1	162.0 H	160.9	0.41	15.9	2.5	159.1	0.12	14.2	3.8	12	LZ
AVD8GK	154.6	155.9	158.2	156.4	156.3	-0.50	11.8	1.5	156.0	-0.47	11.2	1.9	12	LA
BAQ3AL	159.4	158.3	157.0	155.2	157.5	-0.26	8.7	1.8	157.6	-0.17	8.3	2.6	12	AH
BBQZL3	161.0	152.0	151.4	154.2	154.7	-0.81	11.2	4.4	154.9	-0.69	11.1	4.4	12	AH
BGPLBG	156.2	151.1	152.3	149.4	152.3	-1.28	11.8	2.9	154.7	-0.71	9.2	3.2	12	AH
C3NC2F	162.4	161.8	154.5	173.3 *	163.0	0.81	11.8	7.8	166.1	1.45	11.5	5.8	12	LA
DWRAAL	170.1 *	162.7	166.7	166.0	166.4	1.46	10.3	3.1	166.4	1.49	10.3	3.1	4	LA
EJN2C4	167.6	163.4	165.0	166.6	165.7	1.33	9.2	1.9	165.7	1.38	10.6	2.1	11	LA
FGUWUG	162.6	161.2	162.7	152.4 L	159.7	0.17	8.7	4.9	160.2	0.32	9.6	4.1	12	TB
GELY3K	156.9	158.5	162.1	158.3	158.9	0.02	10.9	2.2	155.4	-0.59	11.9	3.6	12	LA
GJV382	157.8	163.2	162.4	160.0	160.9	0.39	13.5	2.4	160.0	0.29	13.0	3.7	12	AA
H42WEX	160.3	164.7	163.2	159.4	161.9	0.59	12.6	2.5	163.2	0.89	12.4	3.6	12	AH
H8YC49	167.2	167.3	167.2	168.1	167.5	1.68	12.6	0.4 L	168.5	1.89	10.7	2.2	12	TB
HGLKC3	155.4	154.5	159.7	154.4	156.0	-0.55	10.6	2.5	158.7	0.03	11.8	3.6	12	LZ
HWLALG	152.6	154.2 H	161.5	155.0	155.8	-0.58	14.5	3.9	154.7	-0.71	14.7	3.1	12	LC
JLFQLY	156.9	161.9	155.4	157.5	157.9	-0.18	11.9	2.8	156.8	-0.31	12.2	2.7	11	LA
JMQQJT	158.2	157.4	159.2	154.8	157.4	-0.28	12.4	1.9	155.8	-0.51	13.1	3.6	12	LA
M6DF6W	152.0	148.6	158.6	156.6	154.0	-0.95	11.3	4.5	155.6	-0.55	12.6	3.3	11	TB
MKM73V	162.7	163.5	165.0	167.6	164.7	1.14	12.8	2.2	162.8	0.82	13.3	4.0	12	LC
MMY2PM	154.9	157.9	167.9	No Data	160.2	0.27	12.6	6.8	158.7	0.04	12.4	4.0	11	AH

Containerboard Interlaboratory Testing Program
Analysis 206
Bursting Strength (Mullen), 69 lb Linerboard - 69C1
TAPPI Official Test Method T807

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
MNAVGG	161.8	167.0	164.4	170.8	166.0	1.39	9.1	3.8	164.8	1.20	8.9	3.0	8	RE
MZKGQ2	154.2	150.3	155.7	155.3	153.9	-0.96	8.9	2.5	154.8	-0.71	9.7	5.0	10	LA
NMBZGB	147.0*	153.6	149.3	147.9	149.4	-1.82	11.3	2.9	148.2	-1.96	10.5	3.0	12	XX
NPEZD2	158.5	150.9	157.1	158.9	156.3	-0.48	9.8	3.7	154.2	-0.81	11.7	4.0	11	LA
PA3J7Y	159.3	164.1	159.2 L	158.0 L	160.1	0.26	5.1	2.7	162.8	0.81	5.5	3.8	8	XX
PMRCYF	155.3	157.3	153.4	161.2	156.8	-0.39	12.9	3.3	155.3	-0.61	11.6	3.3	12	LA
R2LMEX	163.8	161.9 H	165.6	162.0	163.3	0.87	14.1	1.8	162.0	0.67	13.3	4.5	12	LJ
RW6ETJ	162.6	161.3	164.7	166.3	163.7	0.95	10.2	2.2	159.5	0.19	11.3	4.2	12	XX
TY7XBC	157.7	165.4	162.3	163.1	162.1	0.64	11.7	3.2	160.1	0.31	15.8	5.7	12	LC
WVXPWC	153.6	156.8	159.4	177.8 XH	161.9	0.60	17.1	10.8 H	158.4	-0.02	13.5	6.9 H	12	LC
WXJDAX	147.7	151.6	No Data	No Data	149.6	-1.79	12.6	2.8	144.9	-2.57*	11.6	6.2	6	TB
WZCJEU	157.1	150.6	154.3	No Data	154.0	-0.94	9.2	3.3	152.9	-1.07	10.8	4.0	11	LC
XF4J49	148.1	145.8*	146.4*	149.6	147.5	-2.20*	13.5	1.7	149.8	-1.65	13.1	3.5	12	LA
YL2H4W	180.8 X	163.5	155.4	168.2	167.0	1.58	11.5	10.6 H	169.8	2.14*	12.0	14.1 H	8	XX
YW7FZD	153.9	153.7 L	157.0	157.6	155.5	-0.64	10.8	2.0	155.1	-0.64	12.9	3.9	12	LC
ZRABLY	159.0	162.7	163.9	161.4	161.8	0.57	12.0	2.1	161.8	0.62	11.1	3.6	12	AH
ZWZRRX	164.6	167.7	161.6	170.8	166.1	1.42	12.7	3.9	166.1	1.45	12.7	3.9	4	XX

Consensus (All Labs) Results									
Wk Mean	158.18	158.43	159.04	159.13	**Month Mean**	158.83	**Grand Mean**	158.49
Avg SDr	11.07	11.06	11.25	11.78	**Avg SDr**	11.47	**Avg SDr**	11.45
SD btwn Labs	5.58	5.67	5.63	6.12	**SD btwn Labs**	5.14	**SD btwn Labs**	5.27
Labs Incld	49	50	50	47	**SD btwn Wks**	4.00	**SD btwn Wks**	4.27
Labs Excld	2	1	0	1	**Labs Incld**	51	**Labs Incld**	51
Labs not rcvd	1	1	2	4				

Instrument Code List as Reported by the Labs	
(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LC) - L & W Autoline	(LJ) - L & W Bursting Strength Tester J-Type
(LZ) - L & W (model not specified)	(RE) - Regmed/Mullen Tester
(TB) - TMI Monitor/Burst 1000	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B3
TAPPI Official Test Method T822

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
33HXMV	108.6	107.1	107.3	105.9	107.2	1.24	4.0	1.1	107.1	1.11	5.1	3.3	16	LC
364LZG	93.8 L	94.4	94.1 L	93.9	94.0	-1.42	2.1	0.2 L	95.6	-1.10	2.9	2.2	16	TH
3AZ78L	101.6	100.2 L	99.3	100.8 L	100.5	-0.13	2.1	1.0	97.1	-0.81	2.3	3.5	16	EM
3PUTEY	105.0	106.1	107.4	98.0	104.1	0.61	2.7	4.2	104.7	0.64	2.7	3.7	12	LD
3RGGTK	100.0	89.8 *	89.3 *	94.0	93.3	-1.58	3.9	4.9	96.8	-0.87	4.3	3.7	16	LC
3VFQ2Z	98.3	101.6	102.1	99.5	100.4	-0.14	3.0	1.8	101.8	0.10	3.2	2.9	16	LC
3WPTR7	104.1	105.7	103.2	106.2	104.8	0.75	3.3	1.4	104.0	0.51	3.3	2.1	16	LD
48PP7T	101.0	100.8	102.4	100.8	101.2	0.03	3.1	0.8	101.9	0.11	2.7	0.7	16	LZ
4KRE3T	101.7	103.4	105.2	110.8 *	105.2	0.84	4.4	4.0	105.6	0.82	3.7	3.4	16	LD
6D97J3	No Data	No Data	95.7 L	96.8	96.3	-0.98	2.2	0.8	98.2	-0.59	4.0	2.9	14	LC
73NJM8	96.2	96.6	96.7	98.0	96.9	-0.85	2.6	0.8	97.1	-0.82	3.3	1.6	16	EN
76EMFE	98.6	98.2	99.0	96.7	98.1	-0.60	5.1	1.0	101.1	-0.05	4.5	3.3	16	LC
7CWVY6	96.9	99.4	104.6	104.5	101.4	0.05	3.1	3.8	103.4	0.39	3.8	4.0	16	XX
7HXC9P	94.0	91.5 L	94.6	92.6	93.2	-1.59	2.3	1.4	93.7	-1.45	2.9	1.1	16	EM
829GDD	100.6	104.2	101.8	100.6	101.8	0.15	3.1	1.7	102.5	0.23	3.3	2.1	16	LX
97G6QE	98.7	100.4 L	103.4	99.9	100.6	-0.10	2.4	2.0	102.5	0.22	2.5	2.0	16	LD
9LRQ9J	106.8	108.4	99.0	99.6	103.4	0.47	4.0	4.8	106.5	0.99	4.6	4.2	16	TC
9W9UWU	98.0	104.3	102.6	103.8	102.2	0.22	3.7	2.9	102.3	0.19	3.4	3.0	16	EM
ABNYXV	99.6	101.4	101.3	101.9	101.0	-0.01	3.3	1.0	100.8	-0.10	2.7	1.1	16	LD
AE7JHQ	89.4 *	87.6 *	86.6 *	91.9	88.9	-2.47 *	3.4	2.3	91.0	-1.98	3.7	3.2	8	TH
AVD8GK	98.1	95.1	97.5	93.9	96.2	-1.00	2.9	2.0	94.5	-1.31	3.2	1.9	16	LC
BBQZL3	102.5	101.7	102.8	105.4	103.1	0.41	3.8	1.6	103.1	0.34	3.3	2.0	16	LD
BGPLBG	100.6	100.3	99.0	102.1	100.5	-0.12	4.6	1.3	100.4	-0.17	4.3	2.6	16	LC
C3NC2F	113.6 *H	111.2	108.8	109.8	110.8	1.97	7.2	2.1	109.6	1.58	4.8	1.6	16	LD
DWRAAL	93.2 H	82.5 XH	91.4 H	92.7 H	90.0	-2.25 *	11.0	5.0	90.0	-2.18 *	11.0	5.0	4	LC
E32L98	102.3	105.7	102.8	No Data	103.6	0.50	2.7	1.9	103.6	0.43	3.2	2.3	13	LZ
EJN2C4	103.2	103.7	104.7	102.5	103.5	0.49	3.6	0.9	102.5	0.21	3.7	2.2	16	LZ
FGUWUG	96.9	98.2	99.3	96.7	97.8	-0.66	2.6	1.2	100.1	-0.24	3.0	2.6	16	TH
GELY3K	101.6	102.0	104.5	104.3	103.1	0.41	3.9	1.5	108.4	1.35	4.0	3.9	16	LD
GJV382	98.9	96.9	99.0	99.0	98.4	-0.53	3.7	1.1	98.0	-0.63	3.7	2.3	16	LD
H42WEX	101.8	103.7	101.4	99.8	101.7	0.12	3.1	1.6	100.7	-0.12	3.1	1.9	16	LC
H8YC49	105.8	104.5	105.7	105.7	105.5	0.88	4.5	0.6	105.3	0.75	4.3	1.3	16	LX
HGLKC3	102.8	105.8	105.3	103.2	104.3	0.64	3.0	1.5	103.3	0.38	2.8	2.9	16	LC
HWLALG	101.7	108.4 H	105.8 H	101.9 H	104.5	0.68	7.7	3.2	104.7	0.65	7.7	3.8	16	LA
JLFQLY	98.7	98.4	97.3	95.6	97.5	-0.72	3.6	1.4	98.2	-0.61	3.6	1.8	13	LD
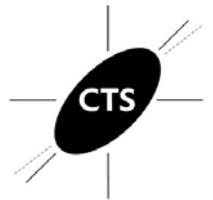
Report #534

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B3
TAPPI Official Test Method T822

| WebCode | Weekly Means | | | | Monthly Results | | | | Cumulative Results | | | | | |
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
JR2LLG	98.9	97.3	96.8	101.2	98.5	-0.51	3.0	2.0	104.2	0.55	3.6	3.7	16	EM
LGCWCL	100.1	89.8*	100.7	102.2	98.2	-0.58	3.6	5.7 H	101.9	0.10	3.8	6.7 H	13	LC
M6DF6W	100.3	103.7	102.9	107.1	103.5	0.49	3.3	2.8	103.5	0.42	3.6	2.3	15	LZ
M9X8EE	99.5	96.6	102.0	98.9	99.3	-0.37	3.2	2.2	99.5	-0.35	3.8	2.1	16	EM
MNAVGG	103.6	103.2	102.0	100.4	102.3	0.24	4.3	1.5	105.1	0.72	4.2	2.4	12	LZ
MTHCWW	100.6	101.0	103.6 L	102.1	101.8	0.15	2.5	1.4	97.5	-0.74	2.7	2.8	16	TD
MZKGQ2	98.4 H	103.0 H	103.7	104.2	102.3	0.25	6.4	2.7	104.7	0.65	4.6	9.0 H	14	LC
N3Q2D2	77.3 X	75.1 X	73.9 X	75.0 X	75.3	-5.20 X	4.9	1.4	80.8	-3.92 X	9.3	7.3 H	12	MB
NMBZGB	111.5*	108.1	112.9*	109.8	110.6	1.91	4.0	2.1	113.0	2.23*	4.0	2.2	16	LZ
NP24AH	109.7	101.4	111.4	97.0	104.9	0.77	3.8	6.8 H	104.9	0.68	4.0	4.7	16	MB
PA3J7Y	102.7	99.1	99.8	100.4	100.5	-0.12	3.1	1.5	103.8	0.46	3.0	3.7	8	XX
PMRCYF	102.5	99.9	99.2	No Data	100.5	-0.12	3.4	1.7	99.2	-0.40	3.2	2.7	14	LC
R2LMEX	97.3	98.2	100.1	97.4	98.2	-0.57	4.5	1.3	99.4	-0.36	4.1	1.9	15	LD
RMJFX8	99.6	99.0	No Data	No Data	99.3	-0.36	2.9	0.4 L	91.3	-1.92	3.3	6.6 H	6	EX
TT4QTN	98.1	99.8	98.7	98.6	98.8	-0.46	4.1	0.7	99.1	-0.43	3.8	1.5	14	LD
TY7XBC	97.0	98.5	95.4	98.0	97.2	-0.78	3.7	1.4	95.7	-1.07	3.0	4.1	16	LC
WKDM8P	81.8 X	79.4 XL	91.1	85.3 X	84.4	-3.37 X	3.3	5.1	91.7	-1.84	2.9	7.8 H	16	MB
WVXPWC	109.9	108.8	111.5	109.1	109.8	1.76	3.5	1.2	107.1	1.11	3.7	2.5	15	LC
WXJDAX	No Data	109.6	No Data	No Data	109.6	1.72	3.8	0.0 L	101.9	0.11	5.1	13.3 H	10	LC
XF4J49	91.9	91.6	92.1	89.8*	91.4	-1.96	3.9	1.1	92.6	-1.67	3.9	3.4	16	LC
YL2H4W	108.3	105.7 H	105.2	116.4 X	108.9	1.58	8.7	5.2 H	114.2	2.45*	5.8	5.8	16	LC
YW7FZD	109.7	110.4	108.9	107.4	109.1	1.61	4.9	1.3	108.4	1.34	4.8	4.7	16	LC

Consensus (All Labs) Results

Wk Mean	101.02	101.16	101.09	100.65	**Month Mean**	101.08		**Grand Mean**	101.34
Avg SDr	4.63	4.24	3.99	3.68	**Avg SDr**	4.19		**Avg SDr**	4.06
SD btwn Labs	4.92	5.40	5.49	4.93	**SD btwn Labs**	4.96		**SD btwn Labs**	5.24
Labs Incld	53	53	54	50	**SD btwn Wks**	2.53		**SD btwn Wks**	3.93
Labs Excld	2	3	1	3	**Labs Incld**	55		**Labs Incld**	56
Labs not rcvd	2	1	2	4					

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B3
TAPPI Official Test Method T822

CTS

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EX) - Emerson (model not specified)

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

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

(EN) - Emerson 2200

(LA) - L&W Autoline

(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

Report #534

Containerboard Interlaboratory Testing Program
Analysis 216
Ring Crush, 69 lb Linerboard - 69C1
TAPPI Official Test Method T822

CTS

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
33HXMV	137.0	139.4	129.4	128.3	133.5	0.02	3.8	5.5	131.4	-0.33	4.8	3.9	12	LC
364LZG	122.0	124.2	122.2	122.4	122.7	-1.38	4.1	1.0	120.8	-1.95	3.8	2.5	12	TH
3AZ78L	124.7	125.1	125.5	128.2 L	125.9	-0.97	2.1	1.6	124.2	-1.43	2.6	4.4	12	EM
3PUTEY	143.5	144.5	140.2	139.7	142.0	1.10	3.6	2.4	142.1	1.30	3.6	3.0	12	LD
3RGGTK	137.6	120.4	125.6	133.4	129.3	-0.53	3.3	7.7 H	131.5	-0.32	3.8	5.0	12	LC
3VFQ2Z	131.5	129.4	130.9	129.5	130.3	-0.40	2.9	1.0	130.3	-0.50	2.9	1.0	4	LC
3WPTR7	133.8	128.7	128.8	132.8	131.0	-0.30	4.4	2.7	129.3	-0.65	4.1	2.1	12	LD
48PP7T	133.7 L	135.8	134.8 L	134.7 L	134.8	0.18	1.6	0.8	140.7	1.09	2.4	5.0	12	LZ
4KRE3T	133.8	136.2	138.3	132.0	135.1	0.22	4.1	2.7	135.4	0.27	4.0	3.0	12	LD
6D97J3	No Data	No Data	129.5	132.6	131.1	-0.30	3.1	2.2	131.5	-0.31	3.5	3.6	10	LC
73NJM8	124.4 L	125.5	125.2	126.8	125.5	-1.02	3.6	1.0	126.6	-1.07	3.9	2.4	12	EN
76EMFE	134.9	127.4	123.5	124.3	127.5	-0.76	3.5	5.2	128.7	-0.74	3.8	5.8	12	LC
7CWVY6	135.0	137.3	142.5	137.3	138.0	0.60	3.4	3.2	137.6	0.61	3.4	5.2	12	XX
7HXC9P	125.8	126.0	127.7	126.4	126.5	-0.89	3.0	0.9	125.9	-1.17	3.3	1.2	12	EM
829GDD	116.4 *H	129.2	135.9	127.6	127.3	-0.79	7.1	8.1 H	130.7	-0.43	5.3	5.8	12	LX
97G6QE	136.8	140.1	135.6	139.0 L	137.9	0.58	3.5	2.0	138.4	0.73	3.3	2.0	12	LD
9LRQ9J	145.2	144.7	142.1	142.8	143.7	1.33	3.9	1.5	142.6	1.38	4.1	2.9	12	TC
9W9UWU	133.1	140.8	138.1	135.7	136.9	0.45	3.3	3.3	134.3	0.10	3.5	6.1	12	EM
ABNYXV	132.4	133.6	132.9	133.7	133.1	-0.04	4.0	0.6	136.3	0.42	4.9	5.3	12	LD
AE7JHQ	125.2	123.3	131.0	126.2	126.4	-0.90	5.4	3.3	128.1	-0.84	4.6	4.3	8	TH
AVD8GK	129.8	132.6	126.4 L	127.3	129.0	-0.56	4.6	2.8	130.7	-0.44	4.7	3.9	12	LC
BBQZL3	135.2	137.1	133.4	127.6	133.3	-0.01	3.9	4.1	133.8	0.03	3.7	2.4	12	LD
BGPLBG	137.9	142.0	140.2	139.8	140.0	0.84	3.9	1.7	136.2	0.39	3.6	4.0	12	LC
C3NC2F	134.1	147.5	148.0	150.0 *	144.9	1.48	4.5	7.3 H	140.0	0.98	3.6	5.8	12	LD
DWRAAL	128.8 H	144.7	130.4 H	130.2 H	133.5	0.02	12.3	7.5 H	133.5	-0.01	12.3	7.5	4	LC
E32L98	140.9	137.2	140.1	No Data	139.4	0.77	2.4	1.9	137.0	0.51	2.5	3.6	10	LZ
EJN2C4	127.8	126.8	128.7	124.8	127.0	-0.82	3.5	1.7	130.0	-0.55	4.3	4.6	11	LZ
FGUWUG	129.3	133.4	134.8	130.0	131.9	-0.19	3.5	2.6	128.5	-0.78	5.2	6.9	12	TH
GELY3K	128.1	126.9	127.9	128.0	127.7	-0.73	2.8	0.6 L	129.8	-0.58	3.9	3.6	12	LD
GJV382	120.6 L	119.4	118.6	120.9	119.9	-1.74	2.3	1.1	119.8	-2.10 *	2.4	1.4	12	LD
H42WEX	135.6	137.2	134.4	132.8	135.0	0.20	3.5	1.8	134.2	0.10	3.7	1.9	12	LC
H8YC49	146.7	143.8	145.9	147.6	146.0	1.62	4.1	1.6	142.8	1.40	4.2	3.6	12	LX
HGLKC3	127.2	128.8	127.9	129.6	128.4	-0.65	2.3	1.1	128.4	-0.79	2.6	2.3	12	LC
HWLALG	130.3	130.7	130.6	130.6	130.6	-0.37	5.0	0.2 L	129.7	-0.59	6.0	3.5	12	LA
JLFQLY	130.7	133.0	132.3	128.7	131.2	-0.29	4.9	1.9	131.9	-0.25	4.1	1.6	10	LD

Containerboard Interlaboratory Testing Program
Analysis 216
Ring Crush, 69 lb Linerboard - 69C1
TAPPI Official Test Method T822

WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
	Weekly Means				**Monthly Results**				**Cumulative Results**					
JR2LLG	136.1	140.1	136.9	139.0	138.0	0.60	3.5	1.8	137.7	0.63	3.6	3.8	12	EM
LGCWCL	114.9*	110.7 XH	116.8	121.3	115.9	-2.25*	4.4	4.4	115.8	-2.71*	4.1	8.2	12	LC
M6DF6W	135.7	132.4	135.4	137.1	135.2	0.23	4.3	2.0	135.9	0.35	4.1	2.4	11	LZ
M9X8EE	127.9	126.3	132.5	127.1	128.5	-0.64	3.7	2.8	128.6	-0.75	3.3	2.1	12	EM
MNAVGG	135.6	134.7	133.2	133.8	134.3	0.12	3.1	1.1	133.0	-0.09	3.6	1.7	8	LZ
MTHCWW	146.7	145.8	146.9	147.6 L	146.7	1.72	2.6	0.8	147.5	2.12*	2.3	1.4	12	TD
MZKGQ2	128.9	136.6	137.2	137.1	135.0	0.20	4.2	4.0	136.1	0.38	5.6	6.2	10	LC
N3Q2D2	121.4	122.6	116.5	121.8	120.6	-1.65	6.1	2.8	131.2	-0.37	12.4	17.8 H	12	MB
NMBZGB	138.6	143.2	145.3	142.0	142.3	1.14	3.3	2.8	142.7	1.40	4.2	3.7	12	LZ
NP24AH	141.7 L	137.0	143.3	126.7	137.2	0.49	3.0	7.5 H	136.6	0.46	3.8	6.1	12	MB
PA3J7Y	136.7	137.9	136.0	139.9	137.6	0.54	3.6	1.7	140.5	1.06	3.1	3.4	8	XX
PMRCYF	135.6	132.5	131.8	No Data	133.3	-0.02	3.3	2.0	132.8	-0.12	4.0	2.6	11	LC
R2LMEX	130.3	132.3	132.3	130.4	131.3	-0.27	3.9	1.1	131.9	-0.25	4.1	2.0	12	LD
RMJFX8	147.5	143.4	No Data	No Data	145.5	1.55	3.0	2.9	133.0	-0.09	3.7	11.6 H	5	EX
TT4QTN	133.7	135.0	133.0	133.9	133.9	0.07	4.1	0.8	133.3	-0.04	3.9	1.6	11	LD
TY7XBC	132.8	129.4	132.7	129.3	131.1	-0.30	3.7	2.0	137.6	0.61	3.2	6.1	12	LC
WKDM8P	124.2	117.8*	110.4*	109.5 X	115.5	-2.31*	3.1	6.9	131.7	-0.29	3.3	14.6 H	12	MB
WVXPWC	144.7	146.8	144.1	146.8	145.6	1.57	3.9	1.4	144.0	1.59	3.7	3.3	12	LC
WXJDAX	143.9	143.0	No Data	No Data	143.5	1.29	2.3	0.7	137.1	0.54	7.6	13.7 H	6	LC
XF4J49	125.5	122.0	125.2	121.8	123.6	-1.26	3.3	2.0	123.3	-1.56	3.8	2.8	12	LC
YL2H4W	145.6	135.4	144.1	145.9	142.7	1.20	4.5	5.0	144.7	1.69	4.6	4.0	8	LC
YW7FZD	150.6*	144.7 H	153.5*	153.3*	150.5	2.20*	7.4	4.1	146.6	1.99	6.1	10.2 H	12	LC

	Consensus (All Labs) Results						
Wk Mean	133.36	134.02	133.21	133.01	**Month Mean**	133.40	**Grand Mean**	133.59
Avg SDr	4.50	3.90	4.03	4.39	**Avg SDr**	4.18	**Avg SDr**	4.59
SD btwn Labs	7.93	7.82	8.46	7.89	**SD btwn Labs**	7.77	**SD btwn Labs**	6.56
Labs Incld	56	55	55	52	**SD btwn Wks**	3.39	**SD btwn Wks**	5.66
Labs Excld	0	1	0	1	**Labs Incld**	57	**Labs Incld**	57
Labs not rcvd	1	1	2	4				

Containerboard Interlaboratory Testing Program
Analysis 216
Ring Crush, 69 lb Linerboard - 69C1
TAPPI Official Test Method T822

CTS

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EX) - Emerson (model not specified)

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

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

(EN) - Emerson 2200

(LA) - L&W Autoline

(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

Report #534

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42B3
TAPPI Provisional Test Method T826

WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
	Weekly Means				**Monthly Results**				**Cumulative Results**					
33HXMV	27.2	26.9	25.5	25.7	26.3	0.99	1.1	0.8	25.9	0.79	1.1	0.6	16	LY
3PUTEY	24.6 L	25.7 L	26.4 L	23.8 L	25.1	0.08	0.5	1.1	25.5	0.43	0.5	1.1	12	LA
3VFQ2Z	22.3	22.3	22.7	23.5	22.7	-1.78	1.7	0.5	23.3	-1.35	1.9	0.8	16	LU
4KRE3T	24.7	24.3	25.2	25.8	25.0	-0.01	1.9	0.6	24.6	-0.28	2.2	0.6	16	LZ
6D97J3	No Data	No Data	25.5	25.3	25.4	0.32	2.4	0.1 L	24.8	-0.14	2.1	0.6	14	LW
73NJM8	22.7	23.0	22.7	23.2	22.9	-1.64	1.8	0.2	23.2	-1.47	1.9	0.5	16	LU
76EMFE	29.1 *	28.5 *	26.2	25.1	27.2	1.69	2.0	1.9 H	25.3	0.26	2.4	2.0 H	16	LW
8DKR4N	26.8	27.3	27.9	25.5	26.9	1.42	2.3	1.0	27.1	1.81	2.4	0.7	16	LA
97G6QE	23.9	23.1	23.7	24.2	23.7	-0.98	1.4	0.4	23.8	-0.96	1.4	0.6	16	BK
9LRQ9J	26.8 L	25.2 L	26.4 L	26.0 L	26.1	0.83	0.5	0.7	25.7	0.66	0.6	1.5 H	16	XX
9QNEPQ	16.1 XL	15.3 XL	15.8 XL	14.9 XL	15.5	-7.28 X	0.0	0.6	20.8	-3.51 X	1.5	5.6 H	8	LU
ABNYXV	24.2	24.2	25.4	24.7	24.6	-0.30	1.9	0.5	24.5	-0.35	1.8	0.4	16	LY
AE7JHQ	27.9	23.2	28.2 *	27.6 *	26.7	1.31	1.9	2.4 H	26.8	1.51	2.0	1.6 H	8	XX
AKDNVJ	24.2	25.2	25.3	25.9	25.1	0.09	2.1	0.7	24.8	-0.16	2.0	0.6	12	LY
ARUJFK	25.9	25.8	26.1	25.5	25.8	0.61	2.2	0.2	26.0	0.87	2.4	0.8	16	LZ
AVD8GK	22.8	23.4	22.6	22.6	22.9	-1.66	1.9	0.4	22.9	-1.76	2.0	0.6	16	XX
BAQ3AL	24.3	24.6	24.3	24.3	24.4	-0.49	1.2	0.2	24.6	-0.30	1.2	0.3	16	TT
BBQZL3	25.0	24.8	25.2	24.7	24.9	-0.06	1.9	0.2	25.1	0.12	1.9	0.3	16	LU
BGPLBG	25.1	25.1	24.9	25.0	25.0	-0.01	1.2	0.1 L	24.9	-0.05	1.2	0.2	16	LW
DWRAAL	16.9 XL	14.5 XL	15.6 XL	16.7 XL	15.9	-6.97 X	0.0	1.1	20.1	-4.09 X	1.7	5.3 H	7	LU
EAEUA9	21.6 *L	22.5 L	21.7 *L	23.0 L	22.2	-2.18 *	0.5	0.7	23.5	-1.19	0.7	1.4	14	XX
EJN2C4	24.8	24.8	25.4	25.5	25.1	0.08	1.6	0.4	25.5	0.46	1.8	0.4	16	LW
FGUWUG	24.2	24.6	24.5	24.3	24.4	-0.47	1.3	0.2	24.3	-0.55	1.4	0.2	16	TT
GJV382	23.8	24.4	24.2	23.9	24.1	-0.71	2.0	0.3	24.0	-0.76	1.8	0.5	16	LW
H42WEX	25.3	25.2	25.2	24.2	25.0	-0.04	1.9	0.5	25.0	0.05	1.9	0.4	16	LU
HGLKC3	24.5	24.7	25.0	24.5	24.7	-0.25	2.0	0.3	24.7	-0.23	2.0	0.4	16	LW
HWLALG	26.8 L	25.5 L	26.3 L	26.0 L	26.2	0.87	0.4	0.5	26.0	0.85	0.5	0.7	16	LA
M6DF6W	23.9	25.0	24.9	24.7	24.6	-0.32	1.8	0.5	24.6	-0.33	1.9	0.5	15	LZ
MKM73V	25.1 L	24.3 L	25.9 L	23.9 L	24.8	-0.17	0.4	0.9	24.6	-0.30	0.4	0.7	16	LA
MMY2PM	26.9	28.1	24.5	No Data	26.5	1.12	2.1	1.8 H	27.2	1.88	2.0	1.1	15	LU
MZKGQ2	26.0	26.8	26.2	25.4 L	26.1	0.80	0.8	0.6	24.6	-0.31	0.8	1.5 H	14	XX
N3Q2D2	27.4 L	26.0 L	27.5	25.9 L	26.7	1.27	0.6	0.9	27.0	1.73	0.6	0.6	12	BK
NP24AH	27.6 L	27.1 L	27.2 L	26.2 L	27.0	1.52	0.1	0.6	26.2	1.05	0.1	1.0	16	LA
NPEZD2	23.5	22.9	23.6	23.2	23.3	-1.32	1.8	0.3	22.6	-1.97	1.7	0.6	15	LU
PMRCYF	23.6	23.6	23.2	24.6	23.8	-0.96	2.0	0.6	24.1	-0.69	1.9	0.6	16	LW

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42B3
TAPPI Provisional Test Method T826

WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SDr	SD Wk	Cumulative Results Mean	CPV	SDr	SD Wk	Wks	Inst
R2LMEX	24.3	25.4	25.3	25.8	25.2	0.14	2.3	0.6	25.2	0.22	2.3	0.5	16	LU
RMJFX8	24.5 L	24.4 L	No Data	No Data	24.4	-0.45	0.0	0.0 L	32.0	5.91 X	0.0	10.3 H	5	XX
TY7XBC	25.0 L	24.3 L	26.6 L	25.4 L	25.3	0.24	0.4	1.0	24.8	-0.16	0.4	0.7	16	LA
VGMLYX	24.5 L	27.0 L	25.6 L	24.8 L	25.5	0.36	0.0	1.1	24.7	-0.20	0.0	1.0	16	LU
WVXPWC	26.4 L	25.3 L	24.3 L	24.1 L	25.0	0.00	0.0	1.1	25.6	0.52	0.0	1.1	12	LZ
WZCJEU	25.4	26.9	25.9	No Data	26.1	0.80	2.4	0.7	26.3	1.11	2.4	1.5 H	15	LA
XF4J49	22.2	21.7 *	24.0	23.0	22.7	-1.77	2.1	1.0	22.8	-1.83	2.0	1.4	16	LY
YW7FZD	28.1 L	27.2 L	26.5 L	27.0 L	27.2	1.67	0.5	0.7	27.0	1.73	0.7	0.7	16	LA
ZRABLY	24.7	24.3	23.9	23.8	24.2	-0.65	2.4	0.4	24.1	-0.73	2.2	0.4	16	LW
ZWZRRX	13.6 XL	15.1 XL	14.6 XL	15.1 XL	14.6	-7.99 X	0.0	0.7	20.2	-4.00 X	1.2	6.0 H	8	XX

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4				
Wk Mean	25.06	24.99	25.15	24.81	Month Mean	25.02	Grand Mean	24.96
Avg SDr	1.76	1.62	1.56	1.61	Avg SDr	1.66	Avg SDr	1.67
SD btwn Labs	1.72	1.59	1.46	1.13	SD btwn Labs	1.31	SD btwn Labs	1.20
Labs Incld	41	41	41	39	SD btwn Wks	0.82	SD btwn Wks	0.88
Labs Excld	3	3	3	3	Labs Incld	42	Labs Incld	41
Labs not rcvd	1	1	1	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 - 69C1
TAPPI Provisional Test Method T826

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
33HXMV	37.3	38.4*	35.6	36.8*	37.0	2.04*	1.2	1.2	36.1	1.92	1.4	1.0	12	LY
3PUTEY	34.6 L	33.5 L	33.8 L	31.5 L	33.4	0.31	0.5	1.3	33.9	0.73	0.6	1.6	12	LA
3VFQ2Z	29.1	28.9	29.3	28.7	29.0	-1.76	1.6	0.3	29.0	-2.00	1.6	0.3	4	LU
4KRE3T	31.6	33.2	34.2	33.6	33.1	0.20	1.6	1.1	32.3	-0.18	1.6	0.9	12	LZ
6D97J3	No Data	No Data	32.1	31.6	31.9	-0.40	1.9	0.4	32.1	-0.27	1.9	0.7	10	LW
73NJM8	32.5	32.3	32.5	32.9	32.5	-0.08	1.7	0.3	32.9	0.15	1.9	0.4	12	LU
76EMFE	35.5	32.8	32.5	32.9	33.4	0.33	2.5	1.4	32.3	-0.17	2.6	2.0	12	LW
8DKR4N	35.7	36.3	35.7	34.8	35.6	1.38	1.6	0.6	34.8	1.21	1.7	1.1	12	LA
97G6QE	31.1	30.8	30.7	30.9	30.9	-0.86	1.7	0.2	31.4	-0.69	1.6	0.5	12	BK
9LRQ9J	34.6	34.6 L	33.6 L	33.2 L	34.0	0.61	0.7	0.7	32.7	0.07	1.2	3.3 H	12	XX
9QNEPQ	20.8 XL	20.7 XL	20.1 XL	20.5 XL	20.5	-5.80 X	0.0	0.3	20.5	-6.68 X	0.0	0.3	4	LU
ABNYXV	31.2	31.6	31.1	31.3	31.3	-0.68	1.9	0.2	33.3	0.40	2.7	3.3 H	12	LY
AE7JHQ	28.1	28.0*	28.5*	28.3	28.2	-2.13*	1.2	0.2	29.7	-1.60	1.4	1.7	8	XX
AKDNVJ	31.1	32.4	33.0	32.3	32.2	-0.25	1.5	0.8	32.1	-0.27	1.7	0.7	8	LZ
ARUJFK	35.0	33.1	33.2	33.4	33.7	0.45	1.6	0.9	33.5	0.48	1.9	1.3	12	LZ
AVD8GK	31.7	32.4	31.8	31.9	32.0	-0.36	1.9	0.3	31.6	-0.56	1.7	1.1	12	XX
BAQ3AL	31.9	32.3	32.4	30.5	31.8	-0.45	1.2	0.9	33.2	0.32	1.3	1.3	12	TT
BBQZL3	31.1	31.8	32.3	31.4	31.6	-0.52	1.8	0.5	31.2	-0.76	1.8	0.5	12	LU
BGPLBG	36.1	36.1	35.9	36.2	36.1	1.61	1.2	0.2	34.4	1.00	1.4	2.1	12	LW
DWRAAL	18.4 XL	19.1 XL	19.1 XL	33.9 L	22.6	-4.79 X	0.0	7.5 H	22.6	-5.51 X	0.0	7.5 H	4	LU
EAEUA9	29.8	31.8	31.9	30.7	31.0	-0.80	1.6	1.0	31.5	-0.64	1.9	0.8	10	XX
EJN2C4	33.5	32.1	34.6	33.7	33.5	0.36	1.7	1.0	33.5	0.49	1.7	0.8	11	LW
FGUWUG	31.2	31.4	31.8	32.2	31.6	-0.52	1.6	0.4	32.7	0.06	1.5	1.0	12	TT
GJV382	31.4	31.8	32.1	32.0	31.8	-0.42	1.6	0.3	31.9	-0.39	1.6	0.3 L	12	LW
H42WEX	32.1	31.5	31.3	32.1	31.7	-0.46	1.7	0.4	31.6	-0.54	1.5	0.5	12	LU
HGLKC3	31.0	32.2	31.6	30.3	31.3	-0.69	1.4	0.8	31.4	-0.68	1.5	0.8	12	LW
HWLALG	33.6 L	33.7 L	32.5 L	33.2 L	33.3	0.26	0.5	0.6	32.7	0.03	0.5	0.8	12	LA
M6DF6W	31.1	31.2	31.4	31.0	31.2	-0.72	2.0	0.2	32.0	-0.36	1.7	2.0	11	LZ
MKM73V	32.5 L	31.6 L	33.3 L	30.9 L	32.1	-0.30	0.6	1.1	31.8	-0.43	0.5	0.8	12	LA
MMY2PM	32.5	34.1	34.3	No Data	33.7	0.45	1.8	1.0	34.4	0.96	1.7	1.4	11	LU
MZKGQ2	37.8*	34.4	35.0	35.4	35.6	1.39	2.4	1.5	35.2	1.43	2.5	1.0	10	XX
N3Q2D2	38.6*	36.2 L	36.2 L	37.3*	37.1	2.07*	0.8	1.1	36.5	2.16*	0.7	0.9	12	BK
NP24AH	33.7 L	35.2 L	34.3 L	34.0 L	34.3	0.76	0.1	0.6	34.5	1.01	0.1	0.9	12	LA
NPEZD2	30.0	30.2	29.8	30.1	30.0	-1.29	1.6	0.2	29.3	-1.82	1.6	0.6	11	LU
PMRCYF	30.2	29.8	30.7	30.0	30.2	-1.20	1.6	0.4	30.2	-1.33	1.5	0.3	12	LW

Report #534

Containerboard Interlaboratory Testing Program
Analysis 224
STFI, 69 lb Linerboard - 69C1
TAPPI Provisional Test Method T826

WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SDr	SD Wk	Cumulative Results Mean	CPV	SDr	SD Wk	Wks	Inst
R2LMEX	32.2	35.1	33.6	35.0	34.0	0.60	1.8	1.4	33.7	0.61	1.8	0.9	12	LU
RMJFX8	37.1 L	36.7 L	No Data	No Data	36.9	1.99	0.0	0.3	48.5	8.78 X	0.0	13.4 H	4	XX
TY7XBC	30.9 L	31.2 L	31.1 L	30.8 L	31.0	-0.81	0.5	0.2	32.8	0.12	0.6	2.8 H	12	LA
VGMLYX	32.8 L	32.6 L	30.9 L	29.8 L	31.5	-0.55	0.0	1.4	31.3	-0.74	0.0	0.9	12	LU
WVXPWC	36.0 L	34.9 L	35.5 L	36.3 L	35.7	1.41	0.0	0.6	35.6	1.66	0.0	0.7	8	LZ
WZCJEU	33.6	34.0	34.1	No Data	33.9	0.57	1.9	0.2	34.4	0.97	2.0	1.6	11	LA
XF4J49	32.1	31.1	31.5	32.3	31.7	-0.46	1.5	0.6	29.5	-1.71	1.5	5.1 H	12	LY
YW7FZD	32.2 L	33.4 L	32.9 L	33.1 L	32.9	0.08	0.4	0.5	33.5	0.47	0.5	1.4	12	LA
ZRABLY	30.1	30.6	30.7	29.8	30.3	-1.15	2.6	0.4	30.6	-1.14	2.3	0.5	12	LW
ZWZRRX	19.8 XL	19.7 XL	20.4 XL	20.3 XL	20.0	-6.03 X	0.0	0.3	20.0	-6.95 X	0.0	0.3	4	LU

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Monthly			Grand
Wk Mean	32.79	32.81	32.66	32.39	**Month Mean**	32.71		**Grand Mean**	32.62
Avg SDr	1.52	1.57	1.49	1.55	**Avg SDr**	1.55		**Avg SDr**	1.60
SD btwn Labs	2.48	2.18	1.84	2.18	**SD btwn Labs**	2.10		**SD btwn Labs**	1.81
Labs Incld	41	41	41	40	**SD btwn Wks**	0.77		**SD btwn Wks**	1.56
Labs Excld	3	3	3	2	**Labs Incld**	42		**Labs Incld**	41
Labs not rcvd	1	1	1	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
33HXMV	98.6	-1.62	8.2	98.9	-1.59	8.2	3	EV
4KRE3T	155.3	1.37	14.5	150.1	0.35	18.4	3	LA
73NJM8	150.1	1.10	13.7	148.2	0.28	15.3	3	EV
76EMFE	206.9	4.09 X	17.9	194.3	2.03*	16.7	3	EV
7TZKXM	135.7	0.34	14.7	129.5	-0.43	10.9	3	EV
ARUJFK	118.2	-0.58	10.5	163.2	0.85	63.2	3	EV
BBQZL3	135.1	0.30	9.1	139.4	-0.06	10.0	3	EV
C3NC2F	121.3	-0.42	9.1	161.1	0.77	62.3	3	EV
DWRAAL	0.3	-6.80 X	0.1	0.3	-5.33 X	0.1	1	EV
EJN2C4	139.8	0.55	15.9	139.7	-0.04	13.8	3	EV
HWLALG	98.1	-1.64	9.2	143.9	0.11	20.0	3	LA
MKM73V	113.3	-0.85	6.6	118.0	-0.87	8.1	3	EV
MZKGQ2	131.6	0.12	8.8	205.3	2.45*	17.8	3	XX
N3Q2D2	134.4	0.27	20.5	129.1	-0.45	25.0	3	EV
NP24AH	121.2	-0.43	6.1	118.3	-0.86	8.3	3	LA
NPEZD2	138.7	0.49	8.3	140.8	0.00	8.8	3	EV
PMRCYF	141.9	0.67	14.6	138.6	-0.08	14.5	3	XX
TY7XBC	161.2	1.68	23.1	146.6	0.22	17.7	3	EV
WVXPWC	126.6	-0.14	25.5	128.4	-0.47	18.3	3	LA
WZCJEU	112.5	-0.89	10.4	114.4	-1.00	11.2	3	LA
YW7FZD	153.7	1.29	19.6	151.3	0.40	17.5	3	LA
ZRABLY	98.6	-1.62	8.1	98.9	-1.59	10.8	3	EV

Consensus (All Labs) Results

Month Mean	129.29		**Grand Mean**	140.85
Avg SDr	13.95		**Avg SDr**	24.07
SD btwn Labs	18.97		**SD btwn Labs**	26.36
Labs Incld	20		**Labs Incld**	21

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgage Model 210-R   (LA) - L & W Autoline

(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
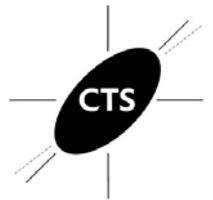
| WebCode | Monthly Results | | | Cumulative Results | | | | |
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3PUTEY	30.4	-4.63 **X**	0.3	30.4	-6.94 **X**	0.3	1	XX
3VFQ2Z	176.0	0.55	9.4	175.6	0.70	7.9	4	XX
829GDD	123.8	-1.31	3.8	138.4	-1.25	8.2	4	SC
9LRQ9J	156.4	-0.15	4.6	155.9	-0.34	4.7	4	SC
9QNEPQ	146.4	-0.50	7.2	152.9	-0.49	6.7	2	TM
ARUJFK	125.6	-1.24	15.1	148.2	-0.74	17.1	4	TM
BBQZL3	148.6	-0.43	1.8	153.6	-0.46	4.5	4	TM
C3NC2F	120.0	-1.44	1.6	137.7	-1.29	7.2	3	HY
DWRAAL	138.2	-0.80	8.0	145.6	-0.88	7.3	2	TM
E2HYAP	150.4	-0.36	4.6	154.7	-0.40	3.9	4	TM
GELY3K	163.6	0.11	7.6	166.1	0.20	6.6	4	SC
GJV382	175.6	0.53	3.8	174.4	0.64	4.3	4	TM
H42WEX	174.8	0.51	8.6	173.9	0.61	7.2	4	HY
HWLALG	155.6	-0.18	4.0	155.5	-0.36	4.3	4	TM
JLFQLY	181.0	0.73	2.5	172.7	0.55	8.6	4	SC
MZKGQ2	223.0	2.22 *	23.9	202.3	2.11 *	20.9	4	SC
PMRCYF	191.4	1.10	5.1	193.4	1.64	8.9	3	HY
R2LMEX	137.6	-0.82	24.6	137.5	-1.31	17.6	4	HZ
TY7XBC	202.4	1.49	25.5	182.4	1.06	26.2	4	HY

Consensus (All Labs) Results

Month Mean	160.58		**Grand Mean**	162.25
Avg SDr	11.82		**Avg SDr**	11.42
SD btwn Labs	28.10		**SD btwn Labs**	18.98
Labs Incld	18		**Labs Incld**	18

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

(HZ) - Huygen Internal Bond Tester with AccuPress

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

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

Containerboard Interlaboratory Testing Program
Analysis 234
COF Inclined Plane (Slide Angle), 36 lb Linerboard - 36Z
TAPPI Official Test Method T815
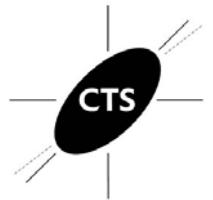
| WebCode | Monthly Results | | | Cumulative Results | | | | |
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3PUTEY	31.6	1.52	2.5	29.5	1.06	2.6	3	ZZ
6D97J3	27.0	-0.23	3.7	27.0	-0.26	3.1	4	ZZ
73NJM8	24.6	-1.13	0.7	24.5	-1.58	1.2	4	ZZ
76EMFE	25.6	-0.76	1.8	26.3	-0.62	1.4	4	ZZ
9LRQ9J	30.2	0.99	0.8	30.4	1.49	1.1	4	ZZ
9QNEPQ	28.0	0.15	2.6	27.2	-0.18	2.2	2	ZZ
ARUJFK	25.6	-0.76	1.5	25.6	-1.01	2.3	4	ZZ
BBQZL3	29.6	0.76	2.5	28.9	0.73	2.1	4	ZZ
DWRAAL	27.9	0.11	3.2	28.9	0.71	2.5	2	ZZ
GJV382	23.2	-1.67	1.5	25.0	-1.28	3.5	4	ZZ
H42WEX	23.0	-1.74	1.9	24.9	-1.36	1.1	4	ZZ
HWLALG	33.6	2.28 *	2.3	30.6	1.62	3.1	4	ZZ
MZKGQ2	27.2	-0.15	1.9	26.1	-0.75	1.7	4	ZZ
NPEZD2	27.8	0.08	1.3	26.8	-0.39	1.8	4	ZZ
PMRCYF	27.6	0.00	1.9	26.2	-0.70	1.6	4	ZZ
TY7XBC	26.0	-0.61	1.7	27.8	0.14	2.3	4	ZZ
WVGPGT	27.1	-0.19	2.4	27.5	0.02	2.9	4	ZZ
WXJDAX	27.2	-0.15	2.2	28.1	0.30	2.1	3	ZZ
ZRABLY	29.4	0.68	1.8	28.1	0.32	1.4	4	ZZ
ZWZRRX	29.8	0.83	2.3	30.9	1.75	1.8	2	ZZ

Consensus (All Labs) Results

Month Mean	27.60	**Grand Mean**	27.49
Avg SDr	2.15	**Avg SDr**	2.19
SD btwn Labs	2.64	**SD btwn Labs**	1.92
Labs Incld	20	**Labs Incld**	20

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
3PUTEY	54.0	1.37	1.7	53.6	1.06	1.8	3	LA
48PP7T	49.6	-1.53	1.4	50.1	-0.30	1.9	4	XX
6D97J3	44.3	-4.99 X	1.3	45.5	-2.09*	1.6	4	LP
7CWVY6	51.5	-0.29	3.2	50.6	-0.12	2.7	4	GG
9QNEPQ	3.3	-31.76 X	0.2	3.3	-18.39 X	0.2	1	XX
ABNYXV	49.7	-1.47	1.3	49.9	-0.36	1.7	4	LP
ARUJFK	51.5	-0.29	3.1	52.0	0.45	3.2	4	XX
DWRAAL	3.3	-31.76 X	0.1	3.3	-18.39 X	0.1	1	LA
GJV382	52.2	0.17	1.8	52.3	0.56	2.7	4	HG
H42WEX	52.6	0.42	2.5	52.4	0.60	2.5	4	HG
HWLALG	51.7	-0.14	2.0	47.6	-1.24	1.7	4	LA
JLFQLY	52.0	0.00	1.8	45.8	-1.95	2.0	4	LP
MZKGQ2	52.2	0.17	2.8	52.1	0.47	2.8	4	HG
N3Q2D2	51.8	-0.08	4.6	52.6	0.66	3.7	3	XX
NPEZD2	51.6	-0.24	1.9	50.7	-0.05	1.6	4	LP
PMRCYF	52.8	0.58	1.5	52.1	0.47	1.6	4	XX
TY7XBC	55.1	2.04 *	2.1	55.5	1.79	2.2	4	LA
WVGPGT	49.0	-1.92	2.3	47.4	-1.32	2.5	4	GA
WVXPWC	53.7	1.14	12.3	52.9	0.77	7.5	3	TL
YJW3KX	53.5	0.99	1.5	52.4	0.60	1.9	4	XX
YW7FZD	50.7	-0.79	0.9	49.9	-0.37	1.6	4	LA
ZWZRRX	51.8	-0.12	2.6	51.8	0.35	2.6	1	XX

Consensus (All Labs) Results

Month Mean	51.95		Grand Mean	50.85
Avg SDr	3.62		Avg SDr	2.81
SD btwn Labs	1.53		SD btwn Labs	2.59
Labs Incld	19		Labs Incld	20

## Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(GG) - Gurley Precision #4320 Densometer

(HG) - Technidyne - Hagerty Model #1 and Profile System

(LA) - L & W Autoline

(LP) - L & W Air Permeance Tester SE 166

(TL) - Teledyne Gurley Densometer #4110, Oil Flotation
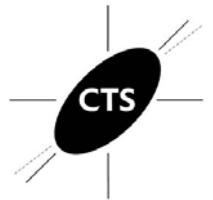
(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T809

CTS

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
3AZ78L	63.6	65.1	63.2	63.2	63.8	0.98	2.3	0.9	64.5	1.10	2.3	1.1	16	EM
3RGGTK	61.7	62.5	58.2 L	62.2	61.1	-0.45	2.8	2.0	61.0	-0.63	3.8	2.1	16	LC
3VFQ2Z	58.6	62.9	63.6	57.0 *	60.5	-0.77	3.4	3.2 H	65.7	1.71	3.3	4.3 H	16	LC
3WPTR7	61.0	62.3	61.3	62.4	61.7	-0.13	3.0	0.7	61.8	-0.24	2.8	1.0	16	LD
4KRE3T	59.5	60.5	60.5	59.2	59.9	-1.10	2.9	0.7	60.6	-0.80	3.3	1.7	16	LD
4ZUJWZ	No Data	75.2 X	67.2 H	66.3 *H	69.6	4.09 X	5.2	4.9 H	67.6	2.66 *	4.4	5.3 H	10	LC
6D97J3	No Data	No Data	63.8	66.1	65.0	1.61	3.1	1.6	62.9	0.31	3.1	1.7	14	LC
829GDD	59.0	59.6	57.8	58.5	58.7	-1.76	3.4	0.8	59.8	-1.24	2.6	1.4	16	LX
8DKR4N	63.6	63.7	64.8	64.3	64.1	1.15	3.2	0.6	62.6	0.17	2.5	1.3	16	XX
8DNA49	No Data	57.5	66.5	59.8	61.3	-0.38	3.0	4.7 H	61.5	-0.38	3.1	2.3	14	LC
98T4J3	62.4	62.8	62.5	64.2	63.0	0.54	2.7	0.9	62.9	0.33	3.0	0.8	16	LZ
9JLHPR	61.9	61.8	61.2	61.7	61.6	-0.18	2.6	0.3	60.5	-0.89	2.9	1.0	16	LD
ABNYXV	61.3	61.6	60.6	60.7 L	61.0	-0.50	1.6	0.4	60.9	-0.69	1.8	0.5	16	LD
AE7JHQ	59.7	60.7	61.2	60.2	60.4	-0.82	2.7	0.7	59.4	-1.43	3.0	1.6	8	TH
AVD8GK	63.5	65.6	64.0	63.9	64.3	1.23	2.8	0.9	63.6	0.64	2.6	1.4	16	LC
BAQ3AL	59.2 H	62.6	59.5	58.9	60.1	-1.03	4.5	1.7	61.2	-0.55	5.0	2.2	16	TG
BBQZL3	63.0	61.4	60.1	60.9	61.4	-0.33	3.2	1.2	61.6	-0.33	2.7	0.9	16	LD
BGPLBG	59.6	59.8	61.0	61.7	60.5	-0.79	1.9	1.0	61.6	-0.33	2.3	1.0	16	LC
DWRAAL	51.1 X	51.4 XH	54.4 *	54.5 XH	52.9	-4.92 X	4.6	1.9	52.9	-4.67 X	4.6	1.9	4	LC
E32L98	63.9	65.3	60.4	No Data	63.2	0.66	2.3	2.5	63.8	0.78	2.5	1.7	13	LZ
EZBJ4J	61.8	65.4	64.2	63.7	63.8	0.97	2.7	1.5	64.5	1.12	3.1	1.9	12	TM
FGUWUG	61.5	60.9	62.1	61.4	61.5	-0.26	2.3	0.5	61.3	-0.46	2.6	0.8	16	TH
GELY3K	64.5 H	65.4 H	65.1	63.3	64.6	1.40	4.1	0.9	64.9	1.31	4.3	1.8	16	LD
H42WEX	60.8	62.0	63.1	61.9	61.9	-0.01	3.3	0.9	61.2	-0.55	3.3	1.3	16	LC
H8YC49	61.3	61.8	60.5	61.1	61.2	-0.44	2.8	0.6	62.3	0.01	3.0	1.7	16	LD
HGLKC3	64.9	64.2	66.4	63.8	64.9	1.55	2.6	1.2	64.9	1.31	2.7	1.2	16	LC
KRFPAT	62.8	62.4	63.0	62.2	62.6	0.34	2.6	0.4	62.7	0.23	2.3	0.4	16	LD
M6DF6W	63.9	58.1	64.6	63.7	62.6	0.32	3.5	3.0	62.6	0.17	3.7	2.5	15	LZ
MTHCWW	60.7	62.6	62.0	61.9	61.8	-0.10	1.9	0.8	62.3	0.03	1.7	0.9	16	TD
N3Q2D2	60.2	57.7	57.3	57.6 *	58.2	-2.04 *	2.9	1.3	57.7	-2.27 *	3.5	1.2	12	MB
NP24AH	56.6 *	55.6 X	56.4	60.2	57.2	-2.56 *	2.7	2.1	58.0	-2.12 *	4.5	3.9 H	16	MB
NPEZD2	62.1	62.6	59.6 H	61.5	61.5	-0.28	3.8	1.3	61.8	-0.24	2.8	1.4	16	LZ
PA3J7Y	65.5	65.2	66.9	65.1	65.7	2.01 *	2.7	0.8	64.2	0.98	3.4	1.9	8	XX
PLXTRM	62.6	63.9	62.4	63.2	63.0	0.57	3.0	0.7	63.4	0.55	3.1	1.7	16	LC
PMRCYF	64.1	63.3	64.6	62.6	63.6	0.89	3.0	0.9	63.2	0.46	3.1	0.7	16	LC
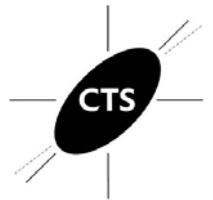
Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T809

WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
	Weekly Means				**Monthly Results**				**Cumulative Results**					
Q7B346	69.3 XH	67.4 *	69.4 *	68.4 XH	68.6	3.59 X	6.1	1.0	65.5	1.61	8.4	3.4	8	LC
QBAGTF	66.3 *	66.1	57.4	61.5	62.8	0.46	3.1	4.2 H	63.9	0.81	3.2	3.5 H	16	LZ
RMJFX8	59.8	59.8	No Data	No Data	59.8	-1.16	3.2	0.0 L	60.0	-1.14	2.8	2.8	6	LZ
V8YVBJ	62.1	62.9	62.4	62.6	62.5	0.29	2.2	0.3	62.5	0.12	2.4	0.4 L	16	LC
W62Y32	61.9	62.4	62.7	61.9	62.2	0.13	1.8	0.4	62.1	-0.10	2.1	0.9	16	LD
WKDM8P	60.8	63.3	63.7	63.2 L	62.7	0.41	2.1	1.3	61.2	-0.55	2.1	6.2 H	16	MB
YJW3KX	61.5	62.7	61.5	59.5	61.3	-0.37	3.3	1.3	61.7	-0.29	2.6	1.0	16	LD
YKRM6B	63.9	63.7	63.0	63.3	63.5	0.81	1.7	0.4	63.5	0.60	1.7	0.7	16	LC
YUGC77	61.2	64.1	62.7	62.3	62.6	0.32	2.2	1.2	61.5	-0.39	2.3	1.2	16	EM
ZRABLY	59.1	59.6	60.1	60.4	59.8	-1.18	1.8	0.6	59.4	-1.41	1.7	0.6	16	TH

Consensus (All Labs) Results

Wk Mean	61.78	62.35	62.11	61.93	**Month Mean**	61.97	**Grand Mean**	62.26
Avg SDr	2.96	2.89	2.79	2.95	**Avg SDr**	2.85	**Avg SDr**	3.22
SD btwn Labs	2.08	2.49	3.04	2.10	**SD btwn Labs**	1.85	**SD btwn Labs**	2.02
Labs Incld	40	42	44	41	**SD btwn Wks**	1.58	**SD btwn Wks**	2.15
Labs Excld	2	3	0	2	**Labs Incld**	42	**Labs Incld**	44
Labs not rcvd	3	1	1	2				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

(LX) - L & W 506

(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

(TM) - TMI/Hinde & Dauch

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

Containerboard Interlaboratory Testing Program
Analysis 250
Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM73
TAPPI Official Method T824
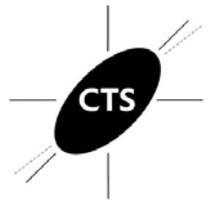
WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
48PP7T	73.2 L	73.2	72.6	72.9 L	73.0	-0.08	1.3	0.3 L	72.6	-0.45	1.4	0.8	16	XX
6D97J3	No Data	No Data	72.3	73.7	73.0	-0.07	3.0	1.0	72.5	-0.50	2.6	0.7	14	XX
8DNA49	69.4 H	75.2	73.8	73.2 H	72.9	-0.11	4.1	2.5	74.8	0.52	3.3	2.5	16	LZ
BGPLBG	71.6	59.8 X	71.5	73.5	69.1	-1.50	1.9	6.3 H	71.4	-1.01	1.6	3.2	16	LC
E32L98	74.7	76.4	76.8	No Data	76.0	1.01	2.3	1.1	74.9	0.58	2.3	1.4	13	LD
H42WEX	73.7	70.9	72.5	70.4	71.9	-0.48	3.1	1.5	73.4	-0.10	2.7	1.9	16	XX
HGLKC3	73.3	77.2	74.6	75.1	75.0	0.68	2.8	1.6	75.0	0.59	2.2	1.7	16	LC
M6DF6W	79.8	79.2	68.9 H	77.9 *	76.5	1.20	3.6	5.1	75.6	0.85	3.8	3.7	15	LZ
MTHCWW	73.4	72.3	71.9	73.0	72.7	-0.20	2.8	0.7	73.1	-0.24	2.2	1.2	16	TD
PLXTRM	78.9	78.4	79.1	75.5	78.0	1.76	2.6	1.7	78.9	2.34 *	2.5	1.9	16	LC
QBAGTF	73.7	75.7	63.3 *H	73.6	71.6	-0.59	3.9	5.6	70.4	-1.43	4.0	4.8 H	16	TU
W62Y32	73.5	73.7	73.4	73.7	73.6	0.14	1.9	0.1 L	73.6	-0.01	2.2	0.9	16	LD
WKDM8P	65.7 *	68.2 H	69.9	69.8 L	68.4	-1.76	2.8	2.0	71.1	-1.13	2.3	3.2	16	MB

Consensus (All Labs) Results									
Wk Mean	73.41	74.58	72.35	73.53	**Month Mean**	73.19	**Grand Mean**	73.64	
Avg SDr	2.96	2.66	3.14	2.79	**Avg SDr**	2.88	**Avg SDr**	2.66	
SD btwn Labs	3.71	3.31	3.81	2.13	**SD btwn Labs**	2.72	**SD btwn Labs**	2.25	
Labs Incld	12	11	13	12	**SD btwn Wks**	3.00	**SD btwn Wks**	2.47	
Labs Excld	0	1	0	0	**Labs Incld**	13	**Labs Incld**	13	
Labs not rcvd	1	1	0	1					

Instrument Code List as Reported by the Labs	
(LC) - L & W Crush Tester 48	(LD) - L&W Crush Tester 248
(LZ) - L & W Crush Tester (model not specified)	(MB) - Messmer Buchel K440
(TD) - TMI Digital Crush Tester, Model 17-09	(TU) - TMI Universal Crush Tester (TMI K440)
(XX) - Instrument make/model not specified by lab	

Containerboard Interlaboratory Testing Program
Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T822

WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
		Weekly Means				**Monthly Results**				**Cumulative Results**				
364LZG	41.6	40.6 L	40.4	40.7	40.8	-0.70	1.6	0.5	41.1	-0.83	2.0	0.5	16	TH
3RGGTK	43.4	41.0	41.1	43.6	42.3	-0.29	2.8	1.4	43.3	-0.06	2.9	1.0	16	LC
4KRE3T	44.1	43.2	46.3	45.4	44.7	0.41	2.8	1.4	44.0	0.20	2.6	1.5	16	LD
4ZUJWZ	50.6	47.6	49.1	49.1	49.1	1.66	2.5	1.2	47.6	1.50	3.0	3.3 H	12	LZ
6D97J3	No Data	No Data	40.2	42.4	41.3	-0.57	2.2	1.6	42.0	-0.50	2.1	1.8	14	LC
9JLHPR	43.9	45.5	45.3	44.8	44.9	0.45	2.1	0.7	42.8	-0.23	2.3	1.6	16	LD
EZBJ4J	50.1	46.9	48.0	46.2	47.8	1.28	2.0	1.7	48.3	1.74	2.3	1.7	12	LZ
H42WEX	45.2	43.7	43.7	41.7	43.6	0.08	3.0	1.4	43.8	0.12	3.1	1.1	16	LC
H8YC49	44.9	47.0	46.8	46.6 H	46.3	0.86	3.3	1.0	47.3	1.37	3.1	1.4	16	LZ
PA3J7Y	46.0	47.0	46.6	44.8	46.1	0.80	2.3	1.0	45.3	0.68	2.3	1.1	8	XX
R2LMEX	41.9	41.8	41.0	41.4	41.5	-0.50	1.9	0.4	41.1	-0.83	2.3	0.7	15	LD
RMJFX8	42.3	42.5	No Data	No Data	42.4	-0.25	2.7	0.1 L	39.2	-1.52	2.9	3.1	6	EM
RUWA94	39.8	38.4 H	44.4	47.2	42.5	-0.24	3.1	4.1 H	42.5	-0.35	3.1	4.1 H	4	LZ
WKDM8P	36.1 *	36.9	36.2	33.0 X	35.6	-2.21 *	2.2	1.7	39.7	-1.34	2.3	3.3 H	16	MB
YJW3KX	42.7 H	42.3	42.7	41.6	42.3	-0.28	3.5	0.5	42.9	-0.18	3.8	1.1	16	LD
YKRM6B	49.3	49.2	48.2	48.4 L	48.8	1.56	1.2	0.6	47.8	1.56	1.6	2.0	16	LC
YUGC77	41.7	40.4	40.2	39.1	40.3	-0.85	2.3	1.0	41.2	-0.79	2.3	0.9	16	LC
Z4LNW9	39.8 L	39.2	38.5	38.8	39.1	-1.21	1.9	0.6	41.9	-0.54	1.5	2.2	12	WK

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Monthly		Grand/Cumulative	
Wk Mean	43.74	43.14	43.45	43.86	**Month Mean**	43.30	**Grand Mean**	43.43
Avg SDr	2.50	2.39	2.62	2.49	**Avg SDr**	2.49	**Avg SDr**	2.60
SD btwn Labs	3.80	3.57	3.78	3.19	**SD btwn Labs**	3.50	**SD btwn Labs**	2.80
Labs Incld	17	17	17	16	**SD btwn Wks**	1.43	**SD btwn Wks**	2.07
Labs Excld	0	0	0	1	**Labs Incld**	18	**Labs Incld**	18
Labs not rcvd	1	1	1	1				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

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

(MB) - Messmer Buchel K440

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

(WK) - Zwick Z005 Crush Tester

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

Report #534

Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM73
TAPPI Provisional Test Method T826

WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SDr	SD Wk	Cumulative Results Mean	CPV	SDr	SD Wk	Wks	Inst
4KRE3T	14.3	14.9	16.1	15.2	15.1	0.52	1.3	0.7 H	14.9	0.18	1.2	0.6	16	LZ
98T4J3	15.4	15.2	15.7	15.5	15.4	1.00	1.1	0.2	15.2	0.61	1.2	0.4	16	LW
AE7JHQ	13.6*	13.6	13.5	13.3	13.5	-1.85	1.0	0.1	14.7	-0.22	1.2	1.3 H	8	XX
EZBJ4J	14.9	15.6	15.4	15.5	15.3	0.85	1.1	0.3	15.8	1.56	1.2	0.5	12	LA
FGUWUG	14.7	14.8	14.9	14.3	14.6	-0.17	0.9	0.2	14.5	-0.50	1.0	0.3	16	TT
H42WEX	15.3	15.3	15.0	14.9	15.1	0.52	1.1	0.2	15.0	0.34	1.2	0.3	16	LU
KRFPAT	14.9	14.5	14.7	15.1	14.8	0.04	1.1	0.2	14.7	-0.25	1.2	0.3	16	LB
N3Q2D2	15.3 L	15.8 L	15.5 L	15.9 L	15.6	1.25	0.2	0.3	15.8	1.69	0.3	0.5	12	BK
NPEZD2	14.3	13.6	13.8	13.3	13.8	-1.48	1.1	0.4	13.7	-1.93	1.1	0.4	15	LU
RUWA94	14.7	14.7	15.2	15.2	14.9	0.26	1.1	0.3	14.9	0.17	1.1	0.3	4	LA
V8YVBJ	14.8	15.1	14.6	14.9	14.9	0.13	1.2	0.2	14.8	-0.10	1.3	0.2	16	LB
W62Y32	14.5	14.8	14.8	15.1	14.8	0.06	0.9	0.2	14.7	-0.16	0.8	0.5	16	LA
XF4J49	13.9	13.9 L	14.1	12.8	13.7	-1.58	1.0	0.6	13.8	-1.69	1.4	0.6	16	LB
YKRM6B	15.7	15.8	15.3	16.2	15.8	1.45	0.8	0.4	15.6	1.21	0.8	0.8	15	XX
YUGC77	15.0	13.6	14.1	13.9	14.1	-0.91	1.1	0.6	14.4	-0.82	1.1	0.7	16	LB
ZRABLY	14.9	14.5	14.7	14.7	14.7	-0.09	1.4	0.2	14.8	-0.09	1.3	0.2	16	LW

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4				
Wk Mean	14.77	14.73	14.83	14.73	Month Mean	14.76	Grand Mean	14.84
Avg SDr	1.13	1.05	1.01	1.07	Avg SDr	1.07	Avg SDr	1.12
SD btwn Labs	0.55	0.73	0.71	0.97	SD btwn Labs	0.68	SD btwn Labs	0.59
Labs Incld	16	16	16	16	SD btwn Wks	0.37	SD btwn Wks	0.55
Labs Excld	0	0	0	0	Labs Incld	16	Labs Incld	16
Labs not rcvd	0	0	0	0				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LB) - L & W Model 152

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

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

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

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

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