Collaborative Testing Services, Inc.
Containerboard Interlaboratory Testing Program

Participant Summary Report #544 (A) - January 2015

Introduction to the Containerboard Program

Explanation of Tables and Definitions of Terms

Analysis	Sample Lot	Analysis Name
201	BOX9	Box Compression Strength, Corrugated Boxes
202	ECT8	Edgewise Compressive Strength, Wax (T811), Corrugated board
203	ECT8	Edgewise Compressive Strength by Clamp (T839), Corrugated board
205	42B4	Mullen Burst of Linerboard, 42 lb Linerboard
206	69C1	Mullen Burst of Linerboard, 69 lb Linerboard
215	42B4	Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard
216	69C1	Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard
223	42B4	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

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

<h1 style="color:green; text-align:center">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="color:green; text-align:center">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 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 Incld   - 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 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 the participants.

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

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.

Labs Incld — 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 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 variabilty between weekly means (high week-to-week variation).
L   Indicates low variabilty between weekly means (low week-to-week variation).

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9
TAPPI Official Test Method T804

	Monthly Results			Cumulative Results				
WebCode	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2MU42K	907.9	1.00	34.6	907.9	1.00	34.6	1	TE
69JUP8	778.8	-1.08	69.7	778.8	-1.08	69.7	1	LL
6PXQDG	890.0	0.71	48.9	890.0	0.71	48.9	1	TO
8QFZUJ	817.4	-0.46	22.9	817.4	-0.46	22.9	1	ER
9JBCZH	755.6	-1.45	56.4	755.6	-1.45	56.4	1	ES
AJ4RH8	809.6	-0.58	38.4	809.6	-0.58	38.4	1	EX
AMDLTY	847.2	0.02	57.3	847.2	0.02	57.3	1	LG
AQT334	765.1	-1.30	48.8	765.1	-1.30	48.8	1	LM
G8NAP3	921.7	1.22	33.5	921.7	1.22	33.5	1	LG
GNVAY7	968.0	1.96	45.6	968.0	1.96	45.6	1	LH
H8MPLZ	897.1	0.82	30.7	897.1	0.82	30.7	1	ER
JFCKD3	773.4	-1.17	35.3	773.4	-1.17	35.3	1	LL
JPKGWZ	868.4	0.36	65.0	868.4	0.36	65.0	1	LH
JVCHJ8	880.8	0.56	67.2	880.8	0.56	67.2	1	ER
KA4JRY	943.2	1.56	28.9	943.2	1.56	28.9	1	TB
KLF96U	843.4	-0.04	84.9	843.4	-0.04	84.9	1	ER
MAJJMZ	857.4	0.18	35.3	857.4	0.18	35.3	1	LS
NLMHUW	790.6	-0.89	74.6	790.6	-0.89	74.6	1	LG
QGL3CZ	746.3	-1.60	17.5	746.3	-1.60	17.5	1	LS
RJTVPY	857.9	0.19	93.7	857.9	0.19	93.7	1	ER
WKN3XR	822.0	-0.39	94.6	822.0	-0.39	94.6	1	LL
XE2E3M	869.4	0.38	24.9	869.4	0.38	24.9	1	LM

Consensus (All Labs) Results

Month Mean	845.97		Grand Mean	845.97
Avg SDr	55.15		Avg SDr	55.15
SD btwn Labs	62.19		SD btwn Labs	62.19
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	843.87	87.48	2.10	6
Clip sealing	835.50	46.49	10.47	14
Tape sealing	925.55	24.96	79.59	2

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9
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

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

(TO) - Tinius Olsen Model not specified

(ES) - Emerson 8510

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

(LL) - Lansmont 76-5K

(LS) - Lansmont Squeezer

(TE) - Testometric M500 - 25 KN

Report #544

Containerboard Interlaboratory Testing Program
Analysis 202
Edgewise Compressive Strength, by T811, Corrugated board - ECT8
TAPPI T811

CTS
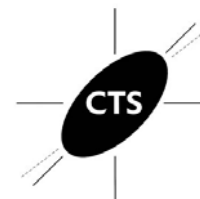
	Monthly Results				Cumulative Results				
WebCode	**Mean**	**CPV**	**SDr**		**Mean**	**CPV**	**SDr**	**Months**	**Inst**
8QFZUJ	56.6	0.11	2.1		57.8	0.32	2.1	2	EN
AMDLTY	58.6	0.68	2.1		59.2	0.74	3.1	2	LC
EHW37X	57.1	0.24	2.9		57.8	0.34	4.9	2	XX
GNVAY7	53.5	-0.81	2.1		53.6	-0.87	1.9	2	TC
JE6HB4	55.2	-0.31	2.4		56.8	0.04	1.9	2	TB
MAJJMZ	50.4	-1.72	2.3		50.4	-1.77	2.3	1	EM
QGL3CZ	56.8	0.15	1.4		55.6	-0.30	1.7	2	LC
Y99WYV	62.0	1.66	1.7		62.0	1.50	1.7	1	XX

Consensus (All Labs) Results

Month Mean	56.25		**Grand Mean**	56.63
Avg SDr	2.14		**Avg SDr**	2.65
SD btwn Labs	3.44		**SD btwn Labs**	3.54
Labs Incld	8		**Labs Incld**	8

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

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

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

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
TAPPI T839

WebCode	Monthly Results				Cumulative Results				
	Mean	CPV	SDr		Mean	CPV	SDr	Months	Inst
338YUM	63.5	0.89	1.5		63.5	1.26	2.2	2	CT
6CLUMJ	57.2	-0.91	0.7		57.1	-0.89	1.5	2	TG
8H7ARG	58.3	-0.60	1.0		54.7	-1.72	1.3	2	LC
8NDTXL	59.9	-0.14	4.7		58.6	-0.40	3.6	2	LD
8QFZUJ	58.6	-0.52	2.9		58.7	-0.36	2.2	2	EN
9FRHZB	53.8	-1.91	4.0		54.1	-1.92	3.3	2	LC
9HZEKF	61.4	0.28	1.8		60.6	0.29	2.1	2	LC
9JBCZH	61.3	0.26	4.5		59.1	-0.22	3.6	2	LD
9PG7VD	58.4	-0.57	2.0		61.6	0.61	2.3	2	TM
9WXQV6	62.9	0.73	1.8		62.8	1.04	2.1	2	LD
ABE4M6	62.7	0.67	2.0		62.1	0.81	2.6	2	TX
AJ4RH8	55.1	-1.52	1.1		55.0	-1.60	1.9	2	TL
AMDLTY	63.2	0.79	2.7		63.1	1.14	3.0	2	LC
AQT334	56.2	-1.21	1.8		56.7	-1.03	1.6	2	EM
AUPXEB	61.4	0.29	1.4		61.4	0.57	1.6	2	LC
B2PP87	64.0	1.02	5.3		97.2	12.69 **X**	6.0	2	LC
EDLV48	58.7	-0.49	2.3		60.0	0.09	2.1	2	TB
EHGMB6	67.1	1.91	2.5		62.6	0.95	2.1	2	LC
EKLANA	57.8	-0.74	2.9		56.4	-1.12	3.6	2	LD
G8NAP3	57.6	-0.81	4.7		60.0	0.09	3.5	2	EM
GNVAY7	61.0	0.18	1.0		60.9	0.39	0.9	2	TC
H8MPLZ	53.9	-1.86	1.3		54.1	-1.91	1.5	2	EM
JE6HB4	58.0	-0.69	2.2		58.7	-0.35	2.4	2	TG
JFCKD3	63.5	0.88	1.7		64.7	1.68	1.8	2	BU
JPKGWZ	63.8	0.97	3.8		63.2	1.18	3.3	2	EM
JVCHJ8	62.0	0.47	3.0		60.5	0.26	2.3	2	LD
KA4JRY	58.4	-0.57	0.5		59.4	-0.11	0.9	2	LC
KLF96U	69.2	2.54 ***	1.8		69.8	3.42 **X**	1.8	2	TD
MAJJMZ	57.4	-0.86	2.6		57.4	-0.79	2.6	1	EM
Q84EMT	61.8	0.40	2.4		61.1	0.45	2.5	2	TB
QGL3CZ	57.9	-0.72	3.5		57.4	-0.80	3.0	2	LC
QWGK2X	57.9	-0.71	3.3		57.9	-0.61	3.3	1	TD
RJTVPY	62.2	0.50	1.4		61.3	0.53	2.8	2	EN
WKN3XR	65.2	1.39	3.3		65.2	1.86	3.3	1	LC
XE2E3M	61.1	0.19	2.2		61.1	0.45	2.2	1	TC
Y99WYV	62.0	0.45	1.7		60.3	0.20	2.0	2	XX

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
TAPPI T839
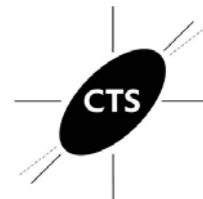
Consensus (All Labs) Results

Month Mean	60.39		**Grand Mean**	59.74
Avg SDr	2.69		**Avg SDr**	2.50
SD btwn Labs	3.48		**SD btwn Labs**	2.95
Labs Incld	36		**Labs Incld**	34

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

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

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

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

(TG) - TMI Digital Crush Tester, 17-76

(TL) - Tech-Lab Systems Compression

(TM) - TMI/Hinde & Dausch

(TX) - TMI (model not specified)

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

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B4
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
338YUM	104.4	110.5 H	113.8 H	106.7 H	108.9	1.05	15.1	4.1	107.5	0.86	15.1	4.6	16	XX
3NKQWL	104.7 L	106.0 L	104.6 L	104.0	104.8	0.17	6.1	0.8	102.7	-0.36	8.9	3.6	16	LC
3VAZPR	110.4	112.7	113.5	115.3 *	113.0	1.94	11.2	2.0	111.0	1.75	10.4	2.4	16	TB
4EV93D	105.2	105.2	105.0	105.0	105.1	0.23	11.2	0.1 L	102.7	-0.37	10.4	6.4 H	15	TB
69TEU4	108.3	100.6	102.8	104.1	104.0	-0.01	11.0	3.3	102.9	-0.30	11.1	2.9	16	LA
6HB3GP	102.9	108.6	104.5	107.2	105.8	0.38	8.9	2.6	104.5	0.09	10.3	2.2	16	LA
7CHKFJ	104.6	105.2	103.9	104.2	104.5	0.10	9.2	0.6	104.5	0.09	24.2	7.8 H	16	LC
8FZ6XT	107.3	110.4	103.6	111.2	108.1	0.89	8.4	3.5	108.3	1.06	5.4	1.9	16	LA
8VUHK2	104.7	109.4	109.7	105.1	107.2	0.69	11.9	2.7	108.9	1.22	10.0	2.9	16	LC
9CECNB	110.9	106.7	108.9	107.1	108.4	0.95	9.7	1.9	108.0	0.99	9.3	3.1	16	LC
9JBCZH	105.2	108.2	106.4	105.4	106.3	0.49	9.2	1.4	106.8	0.69	9.9	2.8	16	LA
A9CVQ8	108.0	114.3	111.9	106.0	110.0	1.30	12.0	3.7	107.8	0.92	11.2	3.0	12	LA
ALWDJB	102.9 L	103.3	104.0 L	104.3 L	103.6	-0.09	4.0	0.7	103.4	-0.20	4.4	1.4	16	LJ
AMDLTY	104.6	104.8	107.8	104.3	105.4	0.29	11.1	1.6	107.8	0.92	10.9	2.7	16	LZ
AQT334	98.5	96.1	96.0 L	98.3	97.2	-1.48	6.0	1.4	99.4	-1.20	6.7	2.4	16	AH
B2PP87	108.6	107.6	109.3	101.7	106.8	0.60	10.6	3.5	104.0	-0.02	11.2	4.0	12	LA
B4AEQH	99.5	113.7	108.2	106.7	107.0	0.65	10.9	5.8	102.2	-0.49	8.6	7.8 H	12	LC
BKZKYC	105.0	104.6	102.8	100.2	103.2	-0.19	9.4	2.2	103.2	-0.23	9.8	2.6	16	AH
BULTD8	92.6 *	92.0 *	94.6	92.1 *	92.8	-2.44 *	8.0	1.2	95.5	-2.20 *	7.6	4.4	16	AX
DHKZ48	101.1	102.8	99.6	100.6	101.0	-0.66	8.1	1.3	101.1	-0.79	8.1	2.7	12	LC
E3PYPD	105.6	100.0	103.9	105.6	103.8	-0.06	9.3	2.6	103.8	-0.09	10.2	3.1	15	AH
EKLANA	98.8	104.0	103.3	99.2	101.3	-0.59	10.0	2.7	99.7	-1.13	9.5	2.7	16	AA
FGG2X4	106.3	104.3	105.6	100.8	104.3	0.05	7.0	2.4	104.6	0.13	6.7	1.6	16	AH
FMNMUE	106.2	100.3	101.6	106.5	103.7	-0.08	7.6	3.2	104.1	-0.01	7.7	2.3	16	LC
G8RMH6	99.2	104.0	99.9	96.7	100.0	-0.89	9.4	3.0	100.0	-1.05	9.2	2.7	16	LC
GNVAY7	108.5	106.0	107.8	99.8	105.5	0.32	10.6	4.0	105.5	0.36	10.3	3.7	16	AA
GXJZKX	125.1 X	119.1 *	120.2 X	116.8 *	120.3	3.53 X	7.9	3.5	116.8	3.23 X	9.6	5.5	16	AH
HMN3GY	107.3	107.7	105.7	108.0	107.2	0.69	6.1	1.0	108.0	1.00	8.5	2.3	16	LA
HTR9W2	116.3 *	114.4	106.0	115.9 *	113.2	1.98	8.8	4.8	113.5	2.39 *	7.9	3.5	12	LA
JE4KZ9	101.1	100.0	98.6	98.4	99.5	-0.98	9.9	1.3	100.6	-0.89	9.8	2.3	16	LC
JVCHJ8	91.3 *	89.9 *	90.2 *	94.9	91.6	-2.70 *	9.6	2.3	95.3	-2.27 *	10.3	4.4	16	AH
LY4NTU	108.6	104.7	102.8	106.2	105.6	0.34	9.4	2.4	105.8	0.43	9.6	2.0	12	LC
NHQUDP	105.8	110.9	111.5	106.2	108.6	0.99	9.0	3.0	109.2	1.30	10.2	2.2	16	LA
NLMHUW	109.3	106.5	102.0	107.7	106.4	0.51	8.0	3.1	104.5	0.10	8.6	3.0	16	AH
PL6NUM	102.9	102.0	96.0	106.0	101.7	-0.50	10.3	4.2	102.3	-0.48	11.0	2.6	16	TB
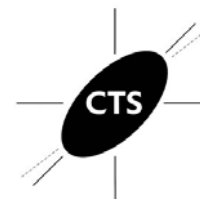
Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B4
TAPPI Official Test Method T807

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
Q84EMT	98.5	97.4	97.8	100.9	98.6	-1.17	11.0	1.6	98.2	-1.51	10.5	1.9	14	LA
QGL3CZ	98.9	97.2	96.7	95.5	97.1	-1.51	8.8	1.4	107.1	0.74	10.8	6.6 H	16	AH
REHHAL	101.8	102.1	104.0 L	103.6	102.9	-0.25	6.6	1.1	105.2	0.28	7.5	3.4	15	LZ
T7YY4Q	106.0	104.2	109.0	104.7	106.0	0.42	11.0	2.2	106.1	0.51	11.2	3.3	16	LJ
TYZ7WH	112.2	106.9	108.9	110.8	109.7	1.23	8.0	2.3	110.1	1.52	7.8	4.6	16	TB
UA9HGQ	99.4	No Data	104.7	109.9	104.7	0.14	8.8	5.3	100.8	-0.85	9.7	5.3	15	LC
UX2KHH	108.3	108.8	104.5	98.4	105.0	0.21	11.5	4.8	103.9	-0.07	11.8	3.0	16	AX
V4ZGVL	105.7	105.8	100.9	104.7	104.3	0.05	10.2	2.3	104.3	0.03	10.2	2.3	4	XX
VHZ9KX	96.9	97.5	96.7	96.5	96.9	-1.55	6.3	0.4 L	98.4	-1.47	8.2	1.7	16	LA
VWFGDN	102.9 H	101.4	101.0 H	100.6	101.5	-0.55	16.8	1.0	102.3	-0.46	11.7	3.3	16	TP
XMQ3XP	107.7	100.0	102.3	102.9	103.2	-0.18	10.3	3.3	102.5	-0.43	10.8	2.8	16	LA
XMRZ9K	104.9	99.9	100.9	104.7	102.6	-0.31	8.4	2.6	106.1	0.51	13.3	3.3	16	LZ
Y642HD	108.9	118.0 *	105.7	111.8	111.1	1.53	9.2	5.2	108.3	1.07	7.7	3.3	16	LB
Y99WYV	96.0	97.5	92.2 *	97.9	95.9	-1.76	8.8	2.6	97.1	-1.81	10.2	2.1	16	LA
YQN4DC	99.4	99.7	102.7	109.6	102.9	-0.26	11.2	4.7	103.1	-0.26	10.3	3.2	15	LA

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4						
Wk Mean	104.17	104.74	103.54	104.21	Month Mean	104.03		Grand Mean	104.14	
Avg SDr	9.88	9.88	9.35	9.68	Avg SDr	9.71		Avg SDr	10.27	
SD btwn Labs	4.94	6.07	5.19	5.34	SD btwn Labs	4.61		SD btwn Labs	3.92	
Labs Incld	49	49	49	50	SD btwn Wks	2.90		SD btwn Wks	3.56	
Labs Excld	1	0	1	0	Labs Incld	49		Labs Incld	49	
Labs not rcvd	0	1	0	0						

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

(LB) - L & W Burst-O-Matic

(LC) - L & W Autoline

(LJ) - L & W Bursting Strength Tester J-Type

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

(TB) - TMI Monitor/Burst 1000

(TP) - Technidyne PROFILE/Plus

(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

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**					
338YUM	160.8	161.8	158.6	166.4	161.9	0.62	11.9	3.3	162.1	0.70	13.7	3.8	12	XX
3NKQWL	151.5L	158.5 L	159.0	150.3	154.8	-0.37	10.2	4.6	158.1	0.01	10.1	5.5	12	LC
3VAZPR	169.9	169.1	166.0	174.2 *	169.8	1.72	14.0	3.4	167.7	1.66	13.4	5.5	12	TB
4EV93D	152.9	160.2	150.3	143.6	151.7	-0.80	10.9	6.8	148.3	-1.68	11.5	9.0 H	11	TB
69TEU4	161.8	164.2	162.3	155.5	160.9	0.48	12.4	3.8	159.2	0.20	12.3	3.5	12	LA
6HB3GP	157.4	157.4	153.7	155.8	156.1	-0.20	13.7	1.8	156.2	-0.32	12.7	3.1	12	LA
7CHKFJ	156.4	154.0	161.2	159.3	157.7	0.03	9.9	3.2	157.3	-0.13	12.5	3.8	12	LC
8FZ6XT	155.0	163.2	151.7	162.0	158.0	0.07	9.5	5.5	160.5	0.42	6.7	4.1	12	LA
8VUHK2	159.2	162.1	158.8	160.9	160.2	0.39	13.5	1.5	162.3	0.73	12.4	3.3	12	LC
9CECNB	159.0	149.3	150.7	157.1	154.0	-0.49	11.3	4.7	154.9	-0.54	10.9	4.0	12	LC
9JBCZH	162.0	164.3	160.0	157.8	161.0	0.49	12.9	2.8	161.1	0.53	12.5	2.9	12	LA
A9CVQ8	162.3	164.8	157.1	158.9	160.8	0.46	11.5	3.4	159.9	0.32	11.5	2.8	8	LA
ALWDJB	161.6	160.3	159.6	162.9	161.1	0.51	10.1	1.5	160.5	0.43	7.5	1.9	12	LJ
AMDLTY	161.7	160.6	165.6	158.9	161.7	0.59	13.9	2.8	160.9	0.50	12.7	3.5	12	LZ
AQT334	160.8	158.1	157.7	155.5	158.0	0.07	9.3	2.1	158.7	0.11	10.5	2.7	12	AH
B2PP87	147.7	162.6	156.9	156.4	155.9	-0.22	11.3	6.1	155.3	-0.48	10.1	4.2	8	LA
B4AEQH	154.2	156.5	162.1	158.9	158.0	0.07	12.9	3.4	157.0	-0.18	11.5	6.0	11	LC
BKZKYC	152.8L	153.0	155.2	152.2	153.3	-0.58	9.2	1.3	152.6	-0.94	11.0	2.0	12	AH
BULTD8	142.7*	141.3 *	147.7	147.4	144.8	-1.78	10.1	3.3	147.2	-1.88	10.6	3.8	12	AX
DHKZ48	156.0	155.3	149.2	153.9	153.6	-0.54	14.9	3.1	156.2	-0.31	14.5	4.5	12	LC
E3PYPD	155.5	160.3	153.5	155.0	156.1	-0.20	13.2	2.9	158.0	-0.01	11.7	4.3	12	AH
EKLANA	149.6	153.1	156.4	155.7	153.7	-0.53	9.0	3.1	155.6	-0.42	9.7	5.7	12	AA
FGG2X4	156.8	148.7	155.9	157.4	154.7	-0.39	9.9	4.0	155.9	-0.38	8.5	3.6	12	AH
FMNMUE	151.7	152.7	145.8	146.8	149.3	-1.15	9.8	3.4	152.5	-0.96	8.8	4.5	12	LC
G8RMH6	157.1	155.9	153.9	153.1	155.0	-0.35	9.6	1.8	154.7	-0.57	10.7	3.0	12	LC
GNVAY7	154.0	158.5	153.5	146.8	153.2	-0.60	10.4	4.8	155.1	-0.51	11.7	4.0	12	AA
GXJZKX	175.8*	175.1 *	184.4 XL	170.3	176.4	2.64 *	8.1	5.9	171.5	2.32 *	9.1	6.6	12	AH
HMN3GY	168.5	168.8	169.4	191.5 X	174.6	2.39 *	8.9	11.3H	170.9	2.22 *	9.8	9.1 H	12	LA
HTR9W2	178.8X	163.4	176.6 X	172.4 *	172.8	2.14 *	9.3	6.8	170.6	2.16 *	9.4	4.8	12	LA
JE4KZ9	154.9	146.1	143.7	151.9	149.1	-1.17	9.8	5.1	153.3	-0.82	11.3	5.9	12	LC
JVCHJ8	145.6	145.0	146.2	144.4	145.3	-1.70	9.0	0.8	151.2	-1.19	9.6	5.4	12	AH
LY4NTU	154.2	159.9	157.4	160.2	157.9	0.06	10.7	2.8	155.1	-0.52	10.7	4.4	8	XX
NHQUDP	165.5	165.1	167.3	162.5	165.1	1.06	13.0	2.0	166.5	1.46	11.2	4.1	12	LA
NLMHUW	161.8	165.2	155.6	158.6	160.3	0.39	11.8	4.1	162.3	0.74	12.2	4.6	12	AH
PL6NUM	158.0	156.3	161.2	150.5	156.5	-0.13	11.2	4.5	155.4	-0.46	11.5	3.5	12	TB

Containerboard Interlaboratory Testing Program
Analysis 206
Bursting Strength (Mullen), 69 lb Linerboard - 69C1
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					
Q84EMT	155.8	156.1	150.9	150.9	153.4	-0.57	13.6	2.9	153.1	-0.86	12.0	2.5	11	LA
QGL3CZ	149.9	149.0	139.6 *	145.2	145.9	-1.62	10.2	4.7	157.0	-0.18	12.4	9.7 H	12	AH
REHHAL	155.4	154.6	151.6	155.5	154.3	-0.45	7.4	1.8	156.2	-0.32	9.5	2.0	12	LZ
T7YY4Q	155.8	159.0	150.8	160.2	156.5	-0.14	11.9	4.2	157.7	-0.07	12.6	5.4	12	LJ
TYZ7WH	168.1	176.8 *	171.8 *	170.8 *	171.9	2.01 *	11.2	3.6	170.7	2.18 *	10.7	2.9	12	TB
UA9HGQ	148.4	No Data	154.0	154.0	152.1	-0.75	12.1	3.2	154.2	-0.66	12.1	5.7	7	LC
UX2KHH	159.1	163.5 H	166.6	159.2	162.1	0.65	14.0	3.6	163.0	0.85	13.7	3.4	12	AX
V4ZGVL	170.1	165.5	161.1	151.0	161.9	0.62	14.9	8.1	161.9	0.67	14.9	8.1 H	4	XX
VHZ9KX	151.6	150.4	149.5	147.5	149.7	-1.08	10.1	1.7	150.9	-1.24	11.1	2.6	12	LA
VWFGDN	148.1	141.4 *	151.5	153.0	148.5	-1.26	9.9	5.2	152.8	-0.91	8.7	6.0	12	TP
XMQ3XP	159.6	154.3	159.0	155.6	157.1	-0.05	12.4	2.6	156.3	-0.30	11.8	2.7	12	LA
XMRZ9K	160.3	155.3	164.5	165.1	161.3	0.54	11.0	4.5	160.1	0.35	12.0	3.3	12	LZ
Y642HD	162.7	168.2	160.4	160.1	162.8	0.75	8.4	3.8	161.0	0.51	8.6	4.3	12	LB
Y99WYV	139.5*	150.0	155.8	144.5	147.4	-1.40	10.1	7.0	146.6	-1.98	10.6	4.1	12	LA
YQN4DC	155.4	159.7	153.5	154.2	155.7	-0.25	10.9	2.8	156.5	-0.27	12.3	2.7	12	LA

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4					
Wk Mean	157.03	158.25	156.33	156.33	Month Mean	157.48	Grand Mean		158.05
Avg SDr	11.21	10.81	11.89	11.28	Avg SDr	11.24	Avg SDr		11.28
SD btwn Labs	7.08	7.66	6.77	7.22	SD btwn Labs	7.16	SD btwn Labs		5.79
Labs Incld	49	49	48	49	SD btwn Wks	4.28	SD btwn Wks		4.72
Labs Excld	1	0	2	1	Labs Incld	50	Labs Incld		50
Labs not rcvd	0	1	0	0					

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

(LB) - L & W Burst-O-Matic

(LC) - L & W Autoline

(LJ) - L & W Bursting Strength Tester J-Type

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

(TB) - TMI Monitor/Burst 1000

(TP) - Technidyne PROFILE/Plus

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

Report #544

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
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**					
2MU42K	100.7	101.1 L	102.8	104.4	102.3	0.22	3.4	1.7	101.5	0.19	2.8	1.3	12	LD
3VAZPR	99.4	97.5	95.7	98.0	97.7	-0.64	3.6	1.5	97.8	-0.72	4.9	2.0	16	LC
4EV93D	112.5	114.7 *	103.7	108.9	109.9	1.65	4.7	4.8	105.1	1.11	4.6	9.5 H	15	LC
69TEU4	91.9	93.8	90.6	92.0	92.1	-1.69	6.9	1.3	95.8	-1.22	6.0	3.4	16	LC
6CLUMJ	100.5	99.7	100.6	99.7	100.1	-0.18	3.2	0.5 L	95.2	-1.35	3.4	3.2	16	TH
7F2CQL	107.4L	100.9	103.4	101.4	103.3	0.41	2.5	2.9	103.4	0.68	3.5	3.0	16	LD
8FZ6XT	93.4 L	95.6	93.8	92.0	93.7	-1.39	3.6	1.5	100.0	-0.17	2.5	7.9 H	16	LD
9CECNB	108.7	108.7	107.3	104.7	107.4	1.17	4.3	1.9	104.6	0.99	4.1	3.9	16	TC
A72ZZ9	113.2	105.9	103.1	110.0	108.0	1.30	5.1	4.5	102.3	0.39	4.8	4.9	16	MB
ALWDJB	103.2	102.6	99.5	103.4	102.2	0.21	4.0	1.8	102.5	0.45	3.9	1.0	16	LD
AMDLTY	108.6L	107.6	104.1	108.8	107.3	1.15	3.0	2.2	105.3	1.16	2.9	2.6	16	LC
AQT334	98.8	99.1 L	95.0	97.3 L	97.6	-0.66	2.7	1.9	99.2	-0.36	2.7	3.0	16	EM
B2PP87	93.7	100.9	101.8	107.6	101.0	-0.02	5.3	5.7	100.1	-0.14	5.9	4.1	11	LC
B4AEQH	100.3L	99.2	107.9	99.1	101.6	0.10	3.6	4.2	97.6	-0.76	4.3	4.3	12	LC
BKZKYC	110.9	110.7	107.5	109.6 L	109.7	1.61	4.4	1.5	108.7	2.00 *	4.0	1.8	16	LC
BULTD8	101.3H	113.5 *	108.8	112.2	108.9	1.47	16.4	5.4	108.8	2.03 *	9.4	3.4	16	LZ
DHKZ48	104.7H	100.1	103.0 H	100.9 H	102.2	0.21	9.1	2.1	102.0	0.32	9.1	4.1	13	LA
EKLANA	101.5L	99.6	98.0	100.9	100.0	-0.21	3.0	1.6	98.9	-0.45	3.2	2.3	15	LD
FMNMUE	104.4	104.9	104.1	104.4	104.5	0.63	4.3	0.3 L	104.8	1.03	8.6	2.6	16	LC
G8NAP3	106.4	94.9	94.6	94.1	97.5	-0.67	3.8	5.9	99.6	-0.27	4.2	5.3	16	EM
G8RMH6	102.7	99.0	101.2	103.6	101.6	0.10	3.5	2.0	104.8	1.03	3.9	3.0	16	LD
GXJZKX	112.2	105.0	104.0	101.4	105.7	0.86	4.2	4.6	106.5	1.45	4.5	3.4	16	LD
H2G7D9	93.9	100.7 H	108.7	111.1	103.6	0.47	6.5	7.8	100.8	0.03	5.5	6.0	15	LC
H8MPLZ	94.0	92.9	92.0	93.0	93.0	-1.52	3.8	0.8	92.0	-2.15 *	4.0	1.2	16	EX
HMN3GY	101.8L	101.9 L	101.9 L	101.4 L	101.7	0.12	1.5	0.2 L	101.3	0.16	2.0	0.4 L	16	LZ
HTR9W2	104.6	108.9	106.9	104.9	106.3	0.98	5.4	2.0	107.6	1.72	5.0	1.9	12	LD
JE4KZ9	102.4	97.5	98.2	99.7	99.5	-0.31	3.5	2.2	99.5	-0.30	4.9	4.4	16	LC
JPKGWZ	107.6	111.4	108.6	110.2	109.4	1.56	3.3	1.7	108.5	1.94	4.1	2.8	16	EM
JVCHJ8	99.4	99.5	98.6	100.4	99.5	-0.30	4.4	0.7 L	99.8	-0.22	3.8	1.1	16	LD
NHQUDP	95.7	99.1	91.4	97.2	95.9	-0.98	3.8	3.3	98.0	-0.67	3.9	3.0	16	LZ
PBN7WA	99.4	98.9	97.7	91.7	96.9	-0.79	3.2	3.5	99.1	-0.38	2.2	2.2	16	LD
PE2QZP	104.1	87.5 *	105.8	No Data	99.1	-0.37	5.9	10.1H	102.7	0.49	6.3	8.3 H	15	XX
PL6NUM	100.8L	100.9	100.5	105.4	101.9	0.15	3.4	2.3	93.2	-1.87	3.9	10.6 H	15	LZ
QA7DYL	90.2	91.1	86.8 *	79.2 X	86.8	-2.67 *	4.8	5.4	95.8	-1.21	8.1	6.2	16	MB
QGL3CZ	102.5L	99.9	99.3	101.8	100.9	-0.04	2.8	1.5	100.4	-0.08	3.6	1.7	16	LC
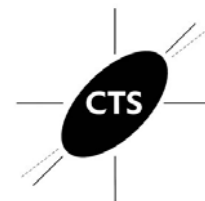
Report #544

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
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
QWGK2X	94.8	99.9	98.4 L	100.8	98.5	-0.49	2.9	2.7	96.2	-1.11	2.3	3.1	8	TD
REHHAL	99.8	100.6	98.2	101.7	100.1	-0.19	4.9	1.5	99.1	-0.40	4.3	2.0	16	LC
RJTVPY	94.5	97.7	95.7	99.3	96.8	-0.80	5.3	2.1	98.0	-0.67	4.0	2.0	16	EN
RM8D2N	98.4	96.6	103.0	97.1	98.8	-0.44	4.0	2.9	99.6	-0.27	4.6	2.2	8	TH
T7YY4Q	92.8	93.8	87.7 *	87.6 *	90.5	-1.99	3.9	3.3	93.2	-1.86	3.8	3.2	16	LC
TYZ7WH	113.2	115.4 *	111.6	110.2	112.6	2.15 *	4.9	2.2	112.7	3.00 X	5.1	4.2	16	LX
UA9HGQ	104.5	No Data	105.7	99.4	103.2	0.40	4.5	3.4	99.6	-0.26	4.5	3.1	15	LD
UX2KHH	107.5	105.2	97.6	99.5 H	102.5	0.25	5.4	4.7	101.3	0.17	5.4	6.6	16	LC
V4ZGVL	107.7	103.1	107.7	99.4	104.5	0.64	3.9	4.0	103.2	0.63	3.8	2.6	16	LC
VHZ9KX	98.5	98.1	97.2	94.0	96.9	-0.78	4.3	2.0	98.3	-0.60	3.8	1.8	16	LC
VUHT6U	96.0	101.2	No Data	No Data	98.6	-0.47	3.6	3.7	100.0	-0.18	3.8	2.8	8	EX
VWFGDN	101.7	100.6	96.2	98.4 L	99.2	-0.35	3.9	2.4	100.5	-0.05	3.7	2.6	16	TH
XMQ3XP	111.0	110.3	111.3	113.2	111.5	1.94	3.9	1.2	107.7	1.75	4.1	4.5	16	LD
Y2KA6P	97.5	97.2	95.0	96.5	96.6	-0.85	3.7	1.1	98.4	-0.58	3.5	1.9	12	XX
Y642HD	102.2	101.3	101.1	105.3	102.4	0.25	4.0	1.9	101.3	0.16	4.5	2.1	16	LC
Y99WYV	97.5 L	95.3	101.9	97.8	98.1	-0.56	3.1	2.8	97.5	-0.79	4.1	2.2	16	LC
YQN4DC	72.3 XH	103.9	106.8	108.4	97.9	-0.61	6.5	17.1 H	97.6	-0.77	6.4	12.2 H	15	LC

				Consensus (All Labs) Results						
Wk Mean	101.77	101.29	100.82	101.63	**Month Mean**	101.10		**Grand Mean**	100.68	
Avg SDr	6.03	4.47	4.29	4.36	**Avg SDr**	4.88		**Avg SDr**	4.72	
SD btwn Labs	5.97	5.91	5.88	5.95	**SD btwn Labs**	5.34		**SD btwn Labs**	4.02	
Labs Incld	51	51	51	49	**SD btwn Wks**	4.12		**SD btwn Wks**	4.36	
Labs Excld	1	0	0	1	**Labs Incld**	52		**Labs Incld**	51	
Labs not rcvd	0	1	1	2						

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EN) - Emerson 2200

(EX) - Emerson (model not specified)

(LA) - L&W Autoline

(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

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

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

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

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

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

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
2MU42K	136.2	129.7	126.6	126.3	129.7	-0.50	3.1	4.6	131.3	-0.29	2.8	3.7	8	LD
3VAZPR	127.6	136.7	140.4	138.4	135.8	0.37	4.1	5.7	135.6	0.39	4.4	5.6	12	LC
4EV93D	137.3	146.3	147.0	148.0	144.6	1.63	4.1	5.0	137.8	0.75	5.9	15.5 H	11	LC
69TEU4	124.5	126.0	125.8	127.0	125.8	-1.06	2.7	1.0	125.7	-1.18	3.2	1.8	12	LC
6CLUMJ	132.6	132.5	133.6	132.6	132.8	-0.06	2.4	0.5 L	133.0	-0.01	2.6	1.6	12	TH
7F2CQL	128.6	127.3	126.4	130.7	128.2	-0.71	3.4	1.8	128.7	-0.70	3.4	1.3	12	LD
8FZ6XT	119.2	126.7 L	123.7	119.9 L	122.4	-1.55	2.7	3.5	126.2	-1.09	2.2	3.5	12	LD
9CECNB	136.7	137.1	136.5	144.5	138.7	0.79	4.3	3.9	137.4	0.68	3.9	4.1	12	TC
A72ZZ9	144.0	141.7	135.8	131.0	138.1	0.70	5.0	5.9	133.5	0.07	5.9	5.9	11	MB
ALWDJB	136.9	138.0	138.2	139.9	138.3	0.72	3.6	1.2	138.0	0.77	3.2	0.9 L	12	LD
AMDLTY	134.5L	132.1	129.9	134.0	132.6	-0.08	2.3	2.1	130.0	-0.49	2.6	3.2	12	LC
AQT334	119.9	119.6 *	119.5	117.1	119.0	-2.03 *	2.4	1.3	121.4	-1.86	2.4	2.4	12	EM
B2PP87	137.1H	131.7 H	131.1	140.7	135.2	0.28	6.7	4.6	138.6	0.87	5.6	5.2	8	LC
B4AEQH	137.0	137.8	135.7	134.9	136.4	0.45	3.5	1.3	131.5	-0.26	3.4	6.8	11	LC
BKZKYC	126.2	135.5	129.4 H	136.4	131.9	-0.20	5.3	4.9	133.6	0.08	5.0	4.1	12	LC
BULTD8	147.2	136.7	143.2 H	141.8	142.2	1.29	4.7	4.3	142.1	1.42	4.2	4.1	12	LZ
DHKZ48	136.1	132.0	133.3 H	133.2	133.6	0.06	4.6	1.7	130.3	-0.45	5.9	6.3	12	LA
EKLANA	121.3	121.4	121.5	121.3	121.4	-1.70	2.7	0.1 L	120.4	-2.02 *	2.6	2.5	12	LD
FMNMUE	145.4	140.5	143.0	141.1	142.5	1.33	4.0	2.2	143.3	1.60	4.1	2.7	12	LC
G8NAP3	134.6	127.2	126.3	121.0	127.2	-0.86	3.5	5.6	127.5	-0.88	3.7	4.9	12	EM
G8RMH6	139.2	135.0	135.1	136.1	136.3	0.45	4.1	2.0	138.8	0.89	3.7	5.0	12	LD
GXJZKX	145.9	133.4	123.2	126.0	132.1	-0.16	3.4	10.1H	132.6	-0.09	5.0	6.5	12	LD
H2G7D9	111.1*	118.3 *	119.2	123.2	117.9	-2.19 *	4.6	5.1	120.0	-2.08*	4.4	6.1	7	LC
H8MPLZ	128.7	126.3	126.8	128.0	127.5	-0.83	3.5	1.1	126.7	-1.02	3.4	1.3	12	EX
HMN3GY	133.2L	133.5	132.5	133.6	133.2	-0.01	2.1	0.5 L	133.3	0.02	2.2	0.5 L	12	LZ
HTR9W2	140.4	141.9	142.1	140.1	141.1	1.13	3.0	1.0	141.8	1.38	3.5	2.9	12	LD
JE4KZ9	141.6	145.9	140.5	142.9	142.7	1.36	3.9	2.3	144.4	1.78	4.9	6.5	12	LC
JPKGWZ	142.7	144.0	140.4 L	139.8	141.7	1.22	2.6	2.0	139.3	0.98	4.9	3.9	12	EM
JVCHJ8	134.2	132.7	129.5	129.6	131.5	-0.25	2.6	2.3	133.2	0.01	3.2	2.0	12	LD
NHQUDP	134.1	135.8	126.7	135.9	133.1	-0.01	3.4	4.4	131.6	-0.24	4.2	3.6	12	LZ
PBN7WA	123.1	127.7 L	124.2	120.4	123.8	-1.35	2.9	3.0	124.4	-1.38	2.3	8.2	12	LD
PL6NUM	128.8H	137.2	138.0	139.4	135.9	0.38	6.0	4.8	132.6	-0.08	4.8	8.2	12	LZ
QA7DYL	118.1H	121.8 H	117.0 *	115.8 *H	118.2	-2.15 *	7.4	2.6	129.3	-0.60	5.7	9.7 H	12	MB
QGL3CZ	136.5	136.9	133.5	134.8	135.4	0.32	3.2	1.6	134.5	0.22	3.5	1.5	12	LC
QWGK2X	145.7L	147.4 *L	150.5 *L	148.0	147.9	2.10 *	1.5	2.0	146.9	2.18 *	2.3	1.7	12	TD

Report #544

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

CTS

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**					
REHHAL	129.9	131.4	128.5	132.5	130.6	-0.38	4.2	1.7	123.9	-1.45	11.4	7.2	12	LC
RJTVPY	127.9	130.5	134.2	131.1	130.9	-0.33	3.6	2.6	128.6	-0.72	3.3	4.7	12	EN
RM8D2N	132.5	135.9	140.3	133.4	135.5	0.33	3.3	3.5	135.5	0.38	3.3	3.5	4	TH
T7YY4Q	120.5	129.6	127.2	123.3	125.2	-1.15	3.4	4.0	128.0	-0.81	3.4	4.2	12	LC
TYZ7WH	157.8*	157.5 X	154.3 *	154.3 *	156.0	3.26 X	3.8	1.9	155.3	3.51 X	3.4	2.2	12	LX
UA9HGQ	134.4	No Data	133.2	139.5	135.7	0.36	4.2	3.4	132.4	-0.11	4.1	4.4	7	LD
UX2KHH	135.2	130.3	134.1	124.8 H	131.1	-0.31	6.7	4.7	131.7	-0.23	5.7	6.5	12	LC
V4ZGVL	138.6	139.6 L	140.7	135.1	138.5	0.76	3.4	2.4	136.8	0.58	3.4	3.3	12	LC
VHZ9KX	131.8	131.6 L	130.8	132.5	131.7	-0.22	2.5	0.7 L	131.6	-0.24	3.3	2.5	12	LC
VUHT6U	146.8	143.4	No Data	No Data	145.1	1.70	3.9	2.4	146.0	2.04 *	4.3	2.5	6	EX
VWFGDN	135.0	134.4	134.4	133.5	134.3	0.16	3.6	0.6 L	134.2	0.16	3.3	2.1	12	TH
XMQ3XP	135.0	135.6	135.5	137.7	136.0	0.39	3.3	1.2	134.4	0.20	3.1	4.5	12	LD
Y2KA6P	127.2	126.6	130.3	126.5	127.7	-0.80	3.2	1.8	128.3	-0.76	3.7	2.0	12	XX
Y642HD	140.1	137.3	142.5	141.0	140.2	1.00	3.5	2.2	139.0	0.93	3.5	3.8	12	LC
Y99WYV	129.5	128.2 H	133.6 H	132.4	130.9	-0.33	5.3	2.5	131.2	-0.31	4.4	1.8	12	LC
YQN4DC	114.5*H	130.8	145.1	140.8	132.8	-0.06	8.7	13.6 H	139.1	0.95	6.2	13.4 H	12	LC

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Monthly		Cumulative
Wk Mean	133.39	133.46	133.41	133.43	**Month Mean**	133.22	**Grand Mean**	133.11
Avg SDr	4.74	3.76	3.71	4.03	**Avg SDr**	4.09	**Avg SDr**	4.29
SD btwn Labs	9.12	6.77	8.12	8.34	**SD btwn Labs**	6.99	**SD btwn Labs**	6.32
Labs Incld	51	49	50	50	**SD btwn Wks**	3.88	**SD btwn Wks**	5.29
Labs Excld	0	1	0	0	**Labs Incld**	50	**Labs Incld**	50
Labs not rcvd	0	1	1	1				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EN) - Emerson 2200

(EX) - Emerson (model not specified)

(LA) - L&W Autoline

(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

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

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

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

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

Report #544

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42B4
TAPPI Provisional Test Method T826

	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
2MU42K	24.2	25.1	24.1	24.6	24.5	-0.37	2.1	0.4	24.5	-0.39	2.0	0.4	12	LY
3NKQWL	23.8 L	23.9 L	23.3 L	23.3 L	23.6	-0.98	0.4	0.3	24.0	-0.82	0.4	0.5	16	LA
3VAZPR	26.4	26.0	25.3	25.6	25.8	0.51	2.3	0.5	25.5	0.40	2.2	0.7	16	LW
3ZGRCB	24.7 L	24.8 L	24.0 L	25.1 L	24.7	-0.27	0.1	0.5	25.0	-0.04	1.8	0.6	16	LY
69TEU4	23.0	23.9	23.5	22.9	23.3	-1.16	1.5	0.5	23.3	-1.35	1.9	0.9	16	LA
6HB3GP	27.1	26.9	27.0	25.2	26.6	1.00	2.4	0.9	26.8	1.41	2.4	1.0	16	LW
6M64CC	23.7 L	22.4 L	23.8 L	24.1 L	23.5	-1.05	0.0	0.8	23.5	-1.20	0.0	0.8	4	TT
7CHKFJ	24.9	27.0	27.2	27.7	26.7	1.08	2.7	1.2	26.9	1.48	2.3	1.0	16	LA
7F2CQL	25.3	23.3	23.4	24.0	24.0	-0.71	1.6	0.9	24.0	-0.79	1.6	0.9	4	LY
8VUHK2	30.3 X	28.5 *	28.0 *	27.4	28.6	2.32 *	2.0	1.2	28.1	2.43 *	2.2	0.8	16	LA
9CECNB	24.7 L	26.2 L	26.0 L	25.6 L	25.6	0.37	0.2	0.7	26.1	0.87	0.7	0.7	16	LA
A72ZZ9	25.1 L	24.6 L	25.7 L	26.3 L	25.4	0.23	0.1	0.7	25.0	-0.01	0.1	0.6	16	LA
A9CVQ8	25.1	26.5	25.8	26.3	25.9	0.57	1.5	0.6	26.8	1.42	1.5	0.8	12	LU
AMDLTY	25.4	25.9	24.6	24.7	25.2	0.07	1.9	0.6	24.9	-0.10	1.9	0.5	16	LW
B2PP87	26.4	24.8	25.7	26.6	25.9	0.54	1.3	0.8	26.4	1.09	1.3	1.1	12	LU
B4AEQH	24.3 L	25.9 L	20.2 X	No Data	23.5	-1.07	0.8	3.0 H	24.0	-0.78	0.6	1.6 H	11	LA
BDZZY2	24.5	24.9	23.9	23.7	24.2	-0.54	1.8	0.6	24.0	-0.77	1.7	0.5	16	BK
BKZKYC	25.5 L	26.2	26.4	25.0	25.8	0.48	0.9	0.7	25.1	0.10	0.9	0.8	16	LY
CC46PX	24.8 L	24.8	24.2	22.7 L	24.1	-0.63	1.1	1.0	23.9	-0.86	1.0	1.2	15	LW
DHKZ48	26.2 L	23.7 L	24.1 L	24.7 L	24.7	-0.26	0.6	1.1	24.9	-0.07	0.5	0.8	13	LA
DJXC7H	24.6	24.0	24.5	24.5	24.4	-0.45	2.2	0.3	24.4	-0.49	2.2	0.3	4	LW
E3PYPD	26.2	27.2	26.6	25.4	26.3	0.85	2.4	0.7	27.5	1.93	2.3	1.5 H	15	LU
EKLANA	22.9	22.4	23.0	23.1	22.9	-1.47	2.3	0.3	23.0	-1.60	2.1	0.4	16	LW
FGG2X4	25.3 L	25.4	25.0 L	24.8	25.1	0.03	0.9	0.3	24.8	-0.16	1.0	0.4	16	TT
FMNMUE	25.6 L	25.1 L	26.4 L	25.8 L	25.7	0.45	0.0	0.6	26.1	0.86	0.0	0.8	16	LA
G8RMH6	23.1	23.5	23.1	22.6	23.0	-1.34	2.2	0.4	24.9	-0.07	2.3	1.5 H	16	LA
JE4KZ9	26.6 L	25.1 L	25.8 L	25.5 L	25.7	0.44	0.5	0.7	25.3	0.23	1.0	0.7	16	LA
JVCHJ8	25.0	25.1	24.9	25.9	25.2	0.11	1.8	0.5	24.9	-0.05	1.9	0.5	16	LU
LY4NTU	26.4	26.0	27.6	28.2	27.1	1.33	1.6	1.0	26.5	1.17	1.5	0.7	12	XX
NHQUDP	23.7	24.5	23.5	23.9	23.9	-0.78	2.2	0.4	24.0	-0.78	2.1	0.5	16	LW
NLMHUW	24.7	23.8	24.8	25.2	24.6	-0.29	1.9	0.6	24.6	-0.30	2.0	0.7	16	LW
PE2QZP	48.3 XL	25.3 L	25.7 L	27.2 L	31.6	4.36 X	0.1	11.1 H	31.4	5.00 X	0.1	8.4 H	16	XX
PL6NUM	25.9	25.0	25.4	24.9	25.3	0.15	2.1	0.5	24.4	-0.50	1.8	1.0	16	LZ
Q84EMT	22.8	22.7	23.2	22.6	22.8	-1.49	1.9	0.3	23.1	-1.53	1.9	0.8	16	LU
QA7DYL	29.2 X	30.4 X	27.8 *L	27.8 L	28.8	2.48 *	0.7	1.3	26.8	1.43	0.7	1.6 H	16	BK

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42B4
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**					
QGL3CZ	24.6	26.0	25.3	25.1	25.3	0.13	2.2	0.6	24.9	-0.05	2.0	0.5	16	LU
REHHAL	22.9	25.8	25.3	25.6	24.9	-0.11	2.4	1.4	24.8	-0.20	2.4	1.7 H	16	LW
RJTVPY	23.5	23.6	23.7	24.2	23.7	-0.89	1.8	0.3	23.7	-1.06	1.9	0.7	16	LU
UA9HGQ	25.1	No Data	24.6	26.9	25.5	0.31	1.9	1.2	25.2	0.11	2.2	1.0	15	LZ
UX2KHH	22.7	21.8 *	21.8 *	21.2 *	21.9	-2.11 *	1.6	0.6	22.7	-1.84	1.8	0.9	16	XX
V4ZGVL	25.3	25.1	25.0	25.8	25.3	0.17	1.8	0.3	24.5	-0.40	1.6	1.2	16	LU
VHZ9KX	24.3	24.1	24.0	24.1	24.1	-0.63	1.5	0.1 L	24.6	-0.31	1.8	0.5	16	LW
VUHT6U	28.2 *L	26.6 L	No Data	No Data	27.4	1.56	0.0	1.1	26.1	0.88	0.0	1.4	8	LZ
VWFGDN	24.6	24.5	24.7	24.6	24.6	-0.31	1.0	0.1 L	24.5	-0.41	1.1	0.3	16	TT
XMQ3XP	27.8 *	27.6	27.4	27.3	27.5	1.65	2.2	0.2	27.5	2.00	2.2	0.2	4	XX
XMRZ9K	27.4	27.2	30.0 X	28.2	28.2	2.09 *	2.3	1.3	26.6	1.23	2.3	1.5 H	16	LZ
Y2KA6P	23.8	24.5	24.7	24.8	24.4	-0.42	1.7	0.4	24.1	-0.68	1.9	0.6	12	XX
Y642HD	24.7	24.6	25.0	24.6	24.7	-0.23	1.2	0.2	25.0	-0.02	1.2	0.3	16	LU
Y99WYV	23.1 L	23.3	23.9	23.1	23.4	-1.13	1.6	0.4	23.6	-1.13	2.0	0.7	16	LY
YQN4DC	25.0	24.1	24.5 L	25.3	24.7	-0.24	1.2	0.5	24.7	-0.27	1.4	0.7	15	LW

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4					
Wk Mean	24.92	24.98	24.96	25.08	**Month Mean**	25.06	**Grand Mean**	25.01	
Avg SDr	1.73	1.61	1.74	1.68	**Avg SDr**	1.70	**Avg SDr**	1.73	
SD btwn Labs	1.34	1.45	1.40	1.58	**SD btwn Labs**	1.50	**SD btwn Labs**	1.27	
Labs Incld	47	48	47	48	**SD btwn Wks**	0.83	**SD btwn Wks**	0.90	
Labs Excld	3	1	2	0	**Labs Incld**	49	**Labs Incld**	49	
Labs not rcvd	0	1	1	2					

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
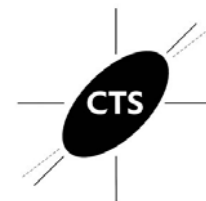
WebCode	Weekly Means Week 1	Week 2	Week 3	Week 4	Monthly Results Mean	CPV	SDr	SD Wk	Cumulative Results Mean	CPV	SDr	SD Wk	Wks	Inst
2MU42K	31.3	31.7	31.5	31.3	31.5	-0.99	1.6	0.2	31.6	-0.73	1.6	0.2	8	LY
3NKQWL	30.9 L	30.9 L	30.5 L	29.3 *L	30.4	-1.60	0.5	0.8	30.8	-1.19	0.5	1.0	12	LA
3VAZPR	33.0	32.7	33.0	32.0	32.7	-0.30	1.9	0.5	32.7	-0.05	1.9	0.6	12	LW
3ZGRCB	31.3 L	33.0 L	32.6 L	32.6 L	32.4	-0.46	0.1	0.7	32.2	-0.35	1.3	0.5	12	LY
69TEU4	31.8	31.8	31.4	31.1	31.5	-0.95	1.4	0.3	31.8	-0.62	1.5	0.7	12	LA
6HB3GP	34.2	35.7	34.1	33.7	34.4	0.70	2.7	0.9	33.8	0.58	2.3	0.9	12	LW
6M64CC	32.1 L	30.9 L	31.8 L	31.5 L	31.6	-0.91	0.0	0.5	31.6	-0.71	0.0	0.5	4	TT
7CHKFJ	33.4	34.7	34.0	34.4	34.1	0.53	2.1	0.5	34.4	0.92	1.7	1.0	12	LA
7F2CQL	31.3	31.0	31.5	30.8	31.2	-1.16	1.3	0.3	31.2	-0.97	1.3	0.3	4	LY
8VUHK2	38.7 X	38.3 *	36.3	36.4	37.4	2.44 *	2.0	1.2	37.2	2.58 *	2.0	0.7	12	LA
9CECNB	33.4	34.4 L	34.9	33.4 L	34.0	0.48	0.6	0.8	34.7	1.08	0.5	1.1	12	LA
A72ZZ9	35.4 L	33.7 L	34.8 L	34.3 L	34.5	0.78	0.1	0.7	34.5	0.98	0.1	0.8	11	LA
A9CVQ8	35.1	32.9 L	35.1	34.8	34.5	0.74	1.0	1.1	34.9	1.24	1.0	1.0	8	LU
AMDLTY	32.2	31.7	32.0	32.5	32.1	-0.62	1.7	0.3	31.7	-0.63	1.6	0.6	12	LW
B2PP87	32.9	34.2	32.4	33.1 L	33.1	-0.03	1.0	0.8	33.4	0.32	1.2	0.9	8	LU
B4AEQH	26.6 X	23.6 X	16.6 XL	28.9 *	23.9	-5.33 X	1.4	5.3 H	27.7	-2.98 X	1.0	4.1 H	12	LA
BDZZY2	32.2	31.6	31.0	29.8	31.2	-1.16	1.2	1.0	31.2	-0.95	1.2	0.6	12	BK
BKZKYC	35.4	35.8 L	34.7	35.1	35.3	1.19	1.3	0.4	35.5	1.57	1.4	0.5	12	LY
CC46PX	33.4	No Data	33.7 L	33.1	33.4	0.12	1.8	0.3	32.5	-0.16	1.8	0.9	11	LW
DHKZ48	32.7 L	32.6 L	32.8 L	32.6 L	32.7	-0.28	0.5	0.1 L	31.9	-0.52	0.5	1.6	12	LA
DJXC7H	31.9	31.7	32.1	32.3	32.0	-0.68	1.5	0.3	32.0	-0.48	1.5	0.3	4	LW
E3PYPD	32.6	33.3	34.6	33.7	33.5	0.21	1.8	0.8	33.9	0.64	1.7	1.0	12	LU
EKLANA	31.9	31.1	31.8	32.6	31.9	-0.76	1.9	0.6	31.4	-0.81	1.8	0.6	12	LW
FGG2X4	33.4	33.9	33.4	33.5	33.6	0.21	1.1	0.2	33.2	0.25	1.3	0.6	12	TT
FMNMUE	33.5 L	32.6 L	35.6 L	35.6 L	34.3	0.66	0.0	1.5 H	34.5	1.01	0.0	1.1	12	LA
G8RMH6	33.0	31.2	31.8	31.8	32.0	-0.71	1.8	0.7	32.6	-0.16	1.5	1.6	12	LA
JE4KZ9	32.6 L	32.4 L	33.0 L	32.4 L	32.6	-0.35	0.5	0.3	32.9	0.06	0.6	0.6	12	LA
JVCHJ8	32.6	31.8	32.4	31.5	32.1	-0.63	1.6	0.5	31.8	-0.60	1.7	0.5	12	LU
LY4NTU	34.5 L	36.0	34.9	34.2	34.9	0.98	1.0	0.8	34.6	1.06	1.0	0.6	8	LU
NHQUDP	32.3	32.5	31.0	33.7	32.4	-0.46	1.8	1.1	32.1	-0.45	1.7	1.0	12	LW
NLMHUW	31.1	31.8	31.7	32.1	31.7	-0.87	2.1	0.4	31.9	-0.53	2.0	0.9	12	LW
PE2QZP	59.0 XL	34.0 L	33.3 L	33.5 L	39.9	3.88 X	0.2	12.7 H	38.9	3.53 X	0.2	10.2 H	12	XX
PL6NUM	32.5	33.0	32.7	33.4	32.9	-0.17	1.6	0.4	31.4	-0.81	1.6	1.1	12	LZ
Q84EMT	31.7	31.1	31.5	31.6	31.4	-1.00	1.8	0.3	30.8	-1.19	1.6	0.9	12	LU
QA7DYL	38.2 X	37.8 *L	36.9 *	36.2 L	37.2	2.33 *	0.7	0.9	35.6	1.64	0.7	1.4	12	BK

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
QGL3CZ	31.4	31.5	31.3	32.3	31.6	-0.89	2.2	0.5	31.4	-0.83	1.8	0.4	12	LU
REHHAL	35.0	34.1	35.1	36.4	35.2	1.13	1.9	0.9	31.5	-0.77	1.7	4.2 H	12	LW
RJTVPY	31.7	30.8	30.7	32.0	31.3	-1.09	1.5	0.6	31.7	-0.63	1.7	0.8	12	LU
UA9HGQ	34.2	No Data	35.2	34.2	34.5	0.78	1.8	0.6	33.7	0.53	1.7	1.4	7	LZ
UX2KHH	28.3 X	27.4 X	27.5 X	27.1 X	27.6	-3.23 X	1.5	0.5	28.3	-2.65 *	1.5	1.4	12	XX
V4ZGVL	30.4	31.9	31.5	30.5	31.1	-1.22	1.4	0.7	30.9	-1.11	1.4	1.1	12	LU
VHZ9KX	31.6	31.4	32.1	31.4	31.6	-0.90	1.2	0.3	31.6	-0.74	1.3	0.4	11	LW
VUHT6U	34.1 L	35.6 L	No Data	No Data	34.9	0.96	0.0	1.1	34.4	0.93	0.0	1.0	6	LZ
VWFGDN	33.6	32.7	32.9	33.4	33.1	-0.02	1.4	0.4	32.8	-0.01	1.5	0.9	12	TT
XMQ3XP	35.8 *	35.0	35.5	35.1	35.3	1.24	1.5	0.4	35.3	1.48	1.5	0.4	4	XX
XMRZ9K	38.3 X	37.1	39.2 X	36.2	37.7	2.60 *	2.4	1.3	35.4	1.51	2.1	2.1 H	12	LZ
Y2KA6P	32.3	32.2	32.3	31.2	32.0	-0.69	1.5	0.5	31.7	-0.64	1.8	0.6	12	XX
Y642HD	34.0	33.7	33.7	33.7	33.8	0.35	1.8	0.1 L	33.1	0.15	1.7	0.7	12	LW
Y99WYV	31.9	33.5	33.6	31.5	32.6	-0.33	2.3	1.1	32.0	-0.50	1.7	1.0	12	LY
YQN4DC	34.2	36.2	35.2	32.9	34.6	0.82	1.7	1.4	34.9	1.22	2.0	1.0	12	LW

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4					
Wk Mean	32.86	33.21	33.13	32.90	**Month Mean**	33.19	**Grand Mean**		32.82
Avg SDr	1.61	1.58	1.50	1.46	**Avg SDr**	1.56	**Avg SDr**		1.51
SD btwn Labs	1.34	1.93	1.64	1.79	**SD btwn Labs**	1.74	**SD btwn Labs**		1.71
Labs Incld	44	46	46	48	**SD btwn Wks**	0.74	**SD btwn Wks**		1.11
Labs Excld	6	2	3	1	**Labs Incld**	47	**Labs Incld**		48
Labs not rcvd	0	2	1	1					

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
3NKQWL	123.8	-0.59		4.5	120.2	-1.06		10.2	4	EV
4AMP4K	130.2	-0.18		13.8	121.3	-0.99		11.1	4	EV
7CHKFJ	111.6	-1.36		13.4	112.6	-1.57		13.0	4	LA
A72ZZ9	139.4	0.40		18.7	142.0	0.41		17.7	4	LA
A9CVQ8	278.6	9.23	X	145.1	237.4	6.84	X	117.3	3	EV
B2PP87	238.2	6.66	X	110.1	238.6	6.91	X	115.5	3	EV
B4AEQH	160.9	1.76		25.8	158.6	1.53		23.0	3	LA
BKZKYC	100.7	-2.06	*	6.8	99.2	-2.48	*	8.8	4	EV
DHKZ48	96.6	-2.32	*	13.4	184.4	3.26	X	42.4	3	LA
FMNMUE	128.8	-0.27		11.2	128.7	-0.49		11.3	4	LA
HTR9W2	128.6	-0.29		13.6	124.9	-0.75		13.2	3	EV
JE4KZ9	145.7	0.80		15.5	154.5	1.25		21.0	4	LA
JVCHJ8	142.9	0.62		10.2	141.6	0.38		11.5	4	EV
NHQUDP	133.2	0.01		13.6	142.0	0.40		15.0	4	EV
NLMHUW	132.6	-0.03		15.3	129.8	-0.41		16.9	4	EV
PE2QZP	155.4	1.41		34.8	154.4	1.24		26.8	4	EV
Q84EMT	141.0	0.50		9.8	146.5	0.71		12.4	4	EV
QA7DYL	135.3	0.14		13.8	141.5	0.37		20.7	4	EV
REHHAL	137.2	0.26		8.7	135.5	-0.03		12.6	4	EV
RJTVPY	144.2	0.70		13.4	150.4	0.97		15.2	4	EV
UA9HGQ	118.2	-0.95		10.5	129.1	-0.46		21.9	4	LA
VHZ9KX	147.6	0.92		15.5	147.1	0.75		11.6	3	EV
XMRZ9K	137.2	0.26		11.6	139.4	0.23		15.4	4	LA
YQN4DC	137.3	0.27		9.9	135.9	-0.01		10.6	4	EV

Consensus (All Labs) Results

Month Mean	133.11		Grand Mean	135.96
Avg SDr	15.15		Avg SDr	15.97
SD btwn Labs	15.77		SD btwn Labs	14.84
Labs Incld	22		Labs Incld	21

Instrument Code List as Reported by the Labs
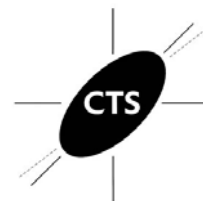
(EV) - Emveco Microgage Model 210-R   (LA) - L & W Autoline

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

	Monthly Results				Cumulative Results				
WebCode	Mean	CPV	SDr		Mean	CPV	SDr	Months	Inst
9CECNB	156.0	-0.69	3.8		159.3	-0.46	6.0	4	SC
A9CVQ8	154.4	-0.79	7.5		144.5	-1.41	11.8	3	TM
B2PP87	162.2	-0.34	6.8		153.0	-0.87	6.7	3	TM
B4AEQH	171.0	0.17	9.6		177.4	0.71	13.6	3	HY
DHKZ48	185.6	1.02	13.0		166.2	-0.02	9.6	3	TM
E9TQA4	160.9	-0.41	8.6		161.9	-0.29	7.0	4	TM
EKLANA	180.2	0.70	8.2		173.1	0.43	8.3	4	TM
G8RMH6	60.6	-6.20 **X**	2.1		65.0	-6.53 **X**	1.5	4	LZ
HTR9W2	176.4	0.48	7.3		178.1	0.75	9.3	3	HY
JVCHJ8	157.6	-0.60	8.4		154.3	-0.78	6.5	4	TM
QGL3CZ	176.6	0.50	4.2		170.9	0.29	4.6	4	HY
UX2KHH	128.2	-2.30 *	9.1		149.6	-1.09	8.3	4	SC
V4ZGVL	187.0	1.10	11.3		175.2	0.56	11.3	4	XX
VHZ9KX	197.2	1.69	13.6		201.4	2.25 *	10.5	4	HY
XMRZ9K	152.8	-0.88	3.1		148.8	-1.14	15.2	4	TM
YQN4DC	174.0	0.35	11.9		183.3	1.08	13.2	4	SC

Consensus (All Labs) Results

Month Mean	168.01		Grand Mean	166.44
Avg SDr	8.97		Avg SDr	9.91
SD btwn Labs	17.32		SD btwn Labs	15.54
Labs Incld	15		Labs Incld	15

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

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

(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
3VAZPR	28.6	1.16	2.5		30.8	1.96	2.9	4
4EV93D	25.4	-0.86	2.8		27.2	-0.19	3.0	4
4HY7BK	27.1	0.22	3.6		27.7	0.12	3.0	4
9CECNB	29.6	1.80	0.9		29.6	1.23	1.0	4
A9CVQ8	29.5	1.73	3.5		30.0	1.47	2.2	3
B2PP87	25.7	-0.67	1.6		27.1	-0.24	1.6	3
B4AEQH	28.2	0.92	2.1		28.6	0.66	2.7	3
DHKZ48	26.0	-0.48	2.1		27.1	-0.20	1.7	3
EKLANA	24.4	-1.50	2.9		25.9	-0.92	2.8	4
G8RMH6	26.6	-0.10	1.1		28.2	0.40	1.4	4
JVCHJ8	29.4	1.67	0.9		29.7	1.32	1.9	4
LY4NTU	26.5	-0.16	1.7		27.2	-0.18	1.9	3
NLMHUW	27.0	0.15	1.0		28.4	0.54	1.1	4
Q84EMT	32.0	3.31 X	4.4		33.4	3.50 X	3.1	4
QGL3CZ	25.6	-0.73	1.1		26.1	-0.81	1.2	4
REHHAL	25.2	-0.98	1.5		24.8	-1.58	1.2	4
RJTVPY	25.2	-1.01	1.8		25.1	-1.43	1.3	4
VHZ9KX	26.0	-0.48	2.0		25.9	-0.93	1.5	4
XMRZ9K	26.0	-0.48	3.7		26.3	-0.72	2.5	4
YQN4DC	26.4	-0.22	1.1		26.6	-0.51	2.1	4

Consensus (All Labs) Results

Month Mean	26.76		Grand Mean	27.47
Avg SDr	2.20		Avg SDr	2.06
SD btwn Labs	1.58		SD btwn Labs	1.69
Labs Incld	19		Labs Incld	19

Instrument Code List as Reported by the Labs
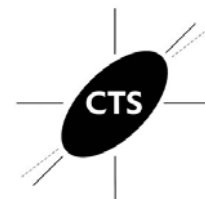
(ZZ) - Instruments No Longer Tracked

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

WebCode	Monthly Results Mean	CPV		SDr		Cumulative Results Mean	CPV		SDr	Months	Inst
2MU42K	50.2	-0.53		0.4		49.9	0.16		1.4	3	LP
3VAZPR	51.2	0.01		2.1		50.1	0.21		1.9	4	LP
4HY7BK	46.6	-2.53	*	2.9		45.1	-1.15		2.7	4	GA
8FZ6XT	51.7	0.31		3.0		51.1	0.47		1.7	4	LP
9Z2EGL	48.0	-1.75		1.7		48.4	-0.25		1.6	4	LA
A9CVQ8	44.0	-4.01	X	3.3		43.4	-1.62		2.8	3	XX
B2PP87	50.8	-0.21		1.4		51.4	0.57		1.7	3	LA
B4AEQH	52.9	0.96		1.9		52.3	0.80		1.9	3	LA
DHKZ48	50.3	-0.46		2.1		50.1	0.20		1.8	3	LA
EKLANA	53.0	1.01		2.2		52.4	0.84		2.2	4	HG
FMNMUE	53.4	1.28		3.3		52.9	0.96		2.9	4	TL
G8RMH6	51.6	0.26		2.3		41.3	-2.18	*	2.0	4	LA
HMN3GY	52.8	0.92		1.8		52.7	0.92		2.1	4	XX
JE4KZ9	49.3	-1.01		2.5		49.5	0.03		1.7	4	LA
KV7KN3	51.8	0.36		2.5		51.8	0.66		1.9	4	XX
LY4NTU	41.5	-5.39	X	2.5		40.7	-2.36	*	1.9	3	XX
PE2QZP	52.5	0.74		2.3		48.7	-0.18		1.5	4	LW
Q84EMT	49.6	-0.89		1.1		50.6	0.33		1.6	4	LP
QA7DYL	52.8	0.92		1.5		53.1	1.03		1.5	4	XX
QGL3CZ	50.6	-0.29		3.1		50.3	0.27		2.8	4	TP
VHZ9KX	52.9	0.99		1.9		52.8	0.93		2.0	4	LP
XMRZ9K	39.7	-6.37	X	5.4		45.4	-1.07		4.0	4	XX
YQN4DC	51.0	-0.08		3.8		51.0	0.45		2.9	4	HG

Consensus (All Labs) Results

Month Mean	51.15		**Grand Mean**	49.36
Avg SDr	2.32		**Avg SDr**	2.20
SD btwn Labs	1.80		**SD btwn Labs**	3.68
Labs Incld	20		**Labs Incld**	23

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

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

(LA) - L & W Autoline

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

(LW) - L & W Gurley Densometer, Oil Flotation

(TL) - Teledyne Gurley Densometer #4110, Oil Flotation

(TP) - Technidyne Profile/ plus Roughness & Porosity

(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

	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
3UR9EM	62.3	65.1	68.1 *	66.2 H	65.5	1.49	4.2	2.4	65.5	1.70	3.9	2.2	8	LD
3VAZPR	61.5	64.4	64.4	62.3	63.1	0.34	3.5	1.5	64.0	0.87	3.1	1.5	14	LC
69TEU4	60.9	61.8	61.1	61.3	61.3	-0.59	2.9	0.4	59.9	-1.35	2.8	1.6	16	LC
6HB3GP	62.5	65.4	63.3	60.8	63.0	0.25	3.6	1.9	64.7	1.28	3.1	2.5	16	LC
7F2CQL	62.2	62.3	62.8	63.1 L	62.6	0.07	2.9	0.4	62.0	-0.19	2.9	1.3	16	LD
7WRHYF	63.1	62.4	64.2	61.8	62.9	0.20	3.2	1.0	62.6	0.11	2.9	1.0	16	LD
9WXQV6	62.8	61.0	61.4	61.4	61.7	-0.41	3.0	0.8	61.9	-0.27	2.6	1.2	16	LD
9Z2EGL	66.6 *	65.1	64.5	59.3	63.9	0.71	3.5	3.2	64.5	1.19	3.7	2.2	16	LC
A72ZZ9	60.1	60.2	59.2	56.6	59.0	-1.73	3.5	1.7	55.5	-3.76 X	2.9	6.2 H	16	MB
ALWDJB	63.3	63.5	63.6	63.7	63.5	0.53	3.1	0.2 L	63.2	0.45	3.0	0.5	16	LD
AMDLTY	64.3	62.7 L	64.9	65.3	64.3	0.91	2.1	1.1	64.1	0.94	2.2	1.4	16	LC
AQT334	66.3 *	65.1	64.9	65.4	65.4	1.47	2.5	0.6	65.0	1.43	3.0	0.9	16	EM
B2PP87	62.1	62.7 H	63.8	70.6 *	64.8	1.16	4.8	3.9 H	65.5	1.71	4.2	2.4	12	LC
BRGVCD	62.3	63.0	62.2	62.3 L	62.5	-0.01	1.8	0.4	62.4	0.01	1.8	0.3 L	8	LD
FC9HYB	60.2	61.2	60.5	61.6	60.9	-0.80	2.9	0.6	60.7	-0.91	3.2	2.7	16	XX
FGG2X4	60.4 H	60.0	63.8 H	62.1	61.6	-0.44	5.1	1.8	60.4	-1.05	4.1	1.3	16	TG
GZA84A	64.6	65.2	61.5	66.5	64.4	0.98	3.0	2.1	62.4	0.00	2.7	2.1	16	LC
JVCHJ8	60.5	58.1 *	57.9	59.5	59.0	-1.72	3.0	1.3	60.9	-0.81	2.8	1.7	16	LD
KV7KN3	62.1	62.9	60.0	61.5	61.6	-0.41	3.3	1.2	61.3	-0.61	2.8	1.1	16	LD
NDTJWW	64.8	66.3 *	67.8 *	66.5	66.4	1.94	2.9	1.2	66.3	2.13 *	3.6	1.3	16	TM
NLMHUW	60.0 L	59.1 L	59.2 L	59.4	59.4	-1.51	1.1	0.4	59.7	-1.48	1.5	0.7	16	TH
P3QLM2	62.6	61.4	61.0	62.7	61.9	-0.27	1.8	0.9	61.7	-0.37	1.6	0.9	16	LC
PE2QZP	56.1 XH	53.4 XH	54.9 X	60.2	56.1	-3.15 X	6.8	2.9	54.7	-4.18 X	9.0	4.5 H	16	XX
PL6NUM	71.6 X	65.1	61.9	68.7 H	66.8	2.18 *	4.2	4.2 H	66.7	2.37 *	4.0	4.7 H	16	LZ
Q84EMT	59.8	60.8	63.3	58.9 H	60.7	-0.88	5.1	1.9	61.1	-0.69	3.7	1.6	16	LZ
QA7DYL	63.3 H	61.1	63.0	59.3	61.7	-0.40	4.4	1.8	59.5	-1.57	4.3	2.7	16	MB
QGL3CZ	61.8	60.5	63.2	62.2	61.9	-0.28	4.1	1.1	61.7	-0.38	3.4	1.3	16	LC
QWGK2X	62.6	62.0	63.6	64.2 L	63.1	0.31	1.8	1.0	63.4	0.57	1.5	1.2	8	TD
QWLXTZ	63.1	62.3	62.7	62.9	62.8	0.14	2.4	0.3	62.7	0.19	2.4	0.4	16	LD
RM8D2N	60.7	59.7	60.0	62.4	60.7	-0.89	2.6	1.2	60.3	-1.14	2.7	1.2	16	TD
T7YY4Q	63.9	59.7	60.0	61.5	61.3	-0.59	3.3	1.9	61.2	-0.65	3.2	2.0	16	LC
TYZ7WH	60.9	60.6	61.1	61.3	61.0	-0.75	2.4	0.3	62.7	0.21	3.4	2.7	16	LD
UA9HGQ	59.4	No Data	60.9	64.4	61.5	-0.47	3.7	2.6	60.5	-1.00	3.4	1.9	15	LD
UDCAUW	62.3	62.7	62.8	63.0	62.7	0.12	2.6	0.3 L	62.5	0.07	2.5	0.5	16	LC
UX2KHH	60.1	61.3	60.4	59.6 L	60.4	-1.04	2.7	0.7	60.7	-0.88	2.9	1.0	16	LC

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

	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
V4ZGVL	58.5 *	63.8	59.6	62.0	61.0	-0.75	3.9	2.4	60.5	-1.02	3.2	2.6	16	LC
VELE6Z	60.8	62.7	60.9	61.3	61.4	-0.51	2.9	0.9	61.5	-0.46	2.6	0.7	16	EM
VHZ9KX	60.8	61.3	59.5 H	56.6	59.6	-1.44	4.9	2.1	62.1	-0.13	3.9	2.1	16	LC
VUHT6U	61.5	63.0	No Data	No Data	62.2	-0.12	2.5	1.1	61.2	-0.63	2.5	1.2	7	LZ
VWFGDN	63.4	61.3	62.4	61.7	62.2	-0.13	2.7	0.9	61.8	-0.33	3.0	0.9	16	TH
XMQ3XP	64.8	64.3	63.3	68.1	65.1	1.33	3.7	2.1	62.6	0.13	4.6	3.2 H	16	LD
Y642HD	61.2 L	62.0	62.1	62.4	61.9	-0.27	1.6	0.5	61.7	-0.39	2.1	0.6	16	LC
ZHAECJ	64.3	68.3 X	67.0 H	68.6	67.0	2.29 *	4.8	2.0	64.1	0.95	6.6	2.6	16	LC

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4						
Wk Mean	62.16	62.32	62.38	62.60	Month Mean	62.47		Grand Mean	62.37	
Avg SDr	3.27	3.31	3.28	3.45	Avg SDr	3.32		Avg SDr	3.24	
SD btwn Labs	1.85	1.95	2.30	3.09	SD btwn Labs	2.00		SD btwn Labs	1.83	
Labs Incld	41	40	41	42	SD btwn Wks	1.68		SD btwn Wks	1.84	
Labs Excld	2	2	1	0	Labs Incld	42		Labs Incld	41	
Labs not rcvd	0	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	(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

	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**
3UR9EM	75.6	74.7	70.3	73.9	73.6	-0.21	3.1	2.3	75.4	0.50	2.8	2.6	8	LD
3VAZPR	74.8	73.6	74.1	79.1	75.4	0.48	2.5	2.5	74.6	0.20	2.7	2.0	14	XX
AMDLTY	77.0	75.4	76.4	73.5	75.6	0.55	2.4	1.5	75.2	0.46	2.6	1.3	16	LC
BRGVCD	72.8	73.1	72.9	72.9	72.9	-0.48	1.6	0.1 L	72.9	-0.47	1.7	0.1 L	8	LD
FC9HYB	75.0	70.2 H	75.5	63.1 XH	71.0	-1.24	5.2	5.7 H	70.0	-1.59	5.3	5.1 H	16	TU
GZA84A	80.7	76.6	79.8	76.0	78.3	1.59	2.6	2.3	78.1	1.57	2.6	1.4	16	LC
HMN3GY	71.8 L	72.8 L	73.3	72.1 L	72.5	-0.64	1.0	0.7	73.1	-0.39	2.1	1.1	16	XX
PL6NUM	70.9	75.0	74.2	71.9 H	73.0	-0.45	3.8	1.9	73.0	-0.43	3.6	3.6 H	16	LZ
QGL3CZ	79.8	79.3 *	79.0	77.7	79.0	1.85	2.8	0.9	78.3	1.67	2.8	1.1	16	LC
QWGK2X	71.7	71.9 L	72.8 L	71.1 L	71.9	-0.89	1.0	0.7	72.1	-0.77	1.1	0.7	8	TD
Y642HD	72.7	73.4	72.4	72.4	72.7	-0.55	1.6	0.5	72.2	-0.73	1.7	0.7	16	LC

					Consensus (All Labs) Results							
Wk Mean	74.79	74.18	74.61	74.07	**Month Mean**		74.16		**Grand Mean**		74.08	
Avg SDr	2.40	3.00	2.00	2.86	**Avg SDr**		2.80		**Avg SDr**		2.84	
SD btwn Labs	3.30	2.44	2.87	2.67	**SD btwn Labs**		2.59		**SD btwn Labs**		2.54	
Labs Incld	11	11	11	10	**SD btwn Wks**		2.30		**SD btwn Wks**		2.27	
Labs Excld	0	0	0	1	**Labs Incld**		11		**Labs Incld**		11	
Labs not rcvd	0	0	0	0								

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)

(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	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
3UR9EM	45.7	43.7	43.7	43.6	44.2	-0.13	3.0	1.0	44.9	0.38	2.8	1.3	8	LD
3VAZPR	44.8	42.4	41.8	44.5	43.4	-0.43	2.7	1.5	42.6	-0.61	2.4	2.5	16	LC
6CLUMJ	40.6	40.6	41.7	40.8	40.9	-1.34	1.9	0.5	42.0	-0.87	2.3	1.7	16	TH
7WRHYF	45.1	46.5 L	45.5	46.9	46.0	0.54	1.7	0.8	45.5	0.60	1.9	0.9	16	LD
9WXQV6	50.7 *	49.9	48.9	49.1	49.7	1.91	2.0	0.8	48.7	1.95	2.1	1.1	16	LD
9Z2EGL	47.9	49.5	48.1	49.2	48.7	1.54	3.0	0.8	48.0	1.65	2.8	1.3	16	LD
ALWDJB	44.1	43.1	44.1	43.1	43.6	-0.36	2.5	0.6	44.3	0.10	2.5	0.9	16	LD
KV7KN3	42.3	42.2	42.7	42.7	42.5	-0.77	3.4	0.3	41.6	-1.03	3.7	1.8	16	LD
NDTJWW	47.2	47.9	48.1	48.2	47.8	1.24	2.6	0.5	44.1	0.02	2.9	2.9	16	LD
P3QLM2	43.6	45.0 L	44.4 L	45.9 L	44.7	0.07	1.1	1.0	46.4	0.99	1.1	1.2	16	LC
PE2QZP	42.6	43.1	48.5	47.4	45.4	0.32	2.0	3.0 H	44.5	0.20	3.0	3.8 H	16	XX
QGL3CZ	44.2	45.0	46.3	44.2	44.9	0.15	3.5	1.0	44.3	0.09	3.2	1.2	16	LC
T7YY4Q	41.3	41.7	42.3 L	40.5	41.4	-1.15	2.5	0.7	41.0	-1.28	2.3	1.0	16	LC
TYZ7WH	46.9	46.8	48.7	47.7	47.5	1.12	3.2	0.9	47.2	1.30	3.7	1.3	16	LZ
UA9HGQ	42.1	No Data	41.3	41.5	41.6	-1.08	2.9	0.4	41.8	-0.96	2.7	1.1	15	LD
VELE6Z	42.0	40.4	39.8	41.4	40.9	-1.35	2.2	1.0	41.0	-1.28	2.0	1.2	16	LC
VUHT6U	42.6	42.4	No Data	No Data	42.5	-0.76	3.3	0.2 L	43.1	-0.38	3.2	1.1	7	EM
ZXMWZC	46.3	43.4	46.0	47.5	45.8	0.48	2.6	1.7	42.0	-0.86	3.4	3.7 H	16	LZ

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Month				Grand	
Wk Mean	44.44	44.32	44.82	44.95	**Month Mean**	44.53			**Grand Mean**	44.05	
Avg SDr	2.59	2.72	2.56	2.59	**Avg SDr**	2.64			**Avg SDr**	2.74	
SD btwn Labs	2.63	2.90	2.96	3.00	**SD btwn Labs**	2.69			**SD btwn Labs**	2.39	
Labs Incld	18	17	17	17	**SD btwn Wks**	1.12			**SD btwn Wks**	1.89	
Labs Excld	0	0	0	0	**Labs Incld**	18			**Labs Incld**	18	
Labs not rcvd	0	1	1	1							

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series
(LD) - L&W Crush Tester 248
(TH) - TMI Compression Tester, Model 17-76

(LC) - L & W Crush Tester 48
(LZ) - L & W Crush Tester (model not specified)
(XX) - Instrument make/model not specified by lab

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
3UR9EM	14.6	14.1	13.8	13.9	14.1	-1.28	1.2	0.4	14.3	-0.99	1.4	0.4	8	XX
6HB3GP	16.4 *	16.0	15.8	15.7	16.0	0.90	1.2	0.3	15.6	0.91	1.3	0.6	16	LW
9WXQV6	15.2	15.1	16.0	15.7	15.5	0.31	1.4	0.4	15.0	-0.01	1.2	0.5	16	LA
9Z2EGL	27.1 XH	26.7 XH	26.3 XH	26.9 XH	26.7	13.50 X	7.2	0.3	26.7	17.64 X	7.2	0.3	4	LA
A72ZZ9	14.3 L	14.3 L	13.7 L	14.3 L	14.1	-1.25	0.0	0.3	14.1	-1.34	0.0	0.4	16	XX
BRGVCD	14.7	14.0	13.8	15.1	14.4	-0.96	0.9	0.6	14.4	-0.86	0.8	0.4	8	LA
NDTJWW	15.7	16.5	16.2	15.9	16.1	1.02	1.3	0.4	16.0	1.57	1.4	0.5	16	LA
NLMHUW	15.0	15.3	15.0	15.1	15.1	-0.13	1.1	0.1	15.0	0.06	1.2	0.2	16	LW
P3QLM2	15.2	15.6	15.3	14.1	15.1	-0.16	0.8	0.7	15.0	0.13	0.8	0.4	16	XX
PE2QZP	26.4 XL	15.9 L	14.6 L	16.1 L	18.3	3.58 X	0.1	5.5 H	19.7	7.10 X	0.1	9.2 H	16	XX
Q84EMT	14.3	14.3	14.6	14.3	14.4	-0.95	1.1	0.2	14.0	-1.38	1.2	0.5	16	LU
QA7DYL	17.8 XL	17.9 XL	16.4 L	16.7 L	17.2	2.34 *	0.3	0.8	16.4	2.15 *	0.2	1.0 H	16	BK
QGL3CZ	15.3	14.6	14.7	15.4	15.0	-0.24	1.0	0.4	15.0	0.10	1.1	0.3	16	LU
QWLXTZ	14.7	15.1	14.9	14.8	14.8	-0.42	1.2	0.2	14.8	-0.31	1.1	0.2	16	LB
UA9HGQ	16.3	No Data	16.0	15.7	16.0	0.91	1.3	0.3	15.7	1.06	1.2	0.5	15	LZ
UDCAUW	14.7	14.9	15.1	14.6	14.8	-0.46	1.2	0.2	14.7	-0.38	1.1	0.2	16	LB
VELE6Z	15.5	15.4	15.6	15.6	15.6	0.41	1.2	0.1	15.0	0.12	1.2	0.6	16	LB
VWFGDN	15.0	15.1	14.8	14.7	14.9	-0.38	0.8	0.2	14.7	-0.37	0.9	0.4	16	TT
Y99WYV	14.7	13.8	14.5	14.2	14.3	-1.03	0.9	0.4	14.1	-1.23	1.1	0.6	16	LB
ZXMWZC	15.3	16.4	17.2 *	16.6	16.4	1.37	1.5	0.8	15.5	0.77	1.4	1.0 H	16	LA

Consensus (All Labs) Results

Wk Mean	15.11	15.23	15.15	15.17	Month Mean	15.20	Grand Mean	14.96	
Avg SDr	1.05	1.04	1.09	1.06	Avg SDr	1.08	Avg SDr	1.10	
SD btwn Labs	0.61	1.04	0.94	0.84	SD btwn Labs	0.85	SD btwn Labs	0.67	
Labs Incld	17	18	19	19	SD btwn Wks	0.42	SD btwn Wks	0.53	
Labs Excld	3	2	1	1	Labs Incld	18	Labs Incld	18	
Labs not rcvd	0	1	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