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	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

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 -

EXPLANATION OF TABLES

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

Definitions of Terms Used

Weekly Results

Laboratory Data
WebCode — A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each 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.

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 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:

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

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

Flags assigned to Weekly Means, Monthly Mean and Cumulative Mean:
- X   Excluded from the weekly means, monthly means and/or the cumulative mean. Immediate review of data and/or testing procedure is 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).

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

| WebCode | Monthly Results | | | Cumulative Results | | | | |
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2ZNRCK	783.1	0.33	12.6	793.1	0.38	21.2	4	TE
384VWT	854.3	1.59	29.3	812.7	0.99	39.4	4	ER
6MURVT	837.2	1.29	20.7	855.8	2.31 *	26.6	4	LM
79B6LV	644.3	-2.12 *	25.2	749.5	-0.95	53.1	4	ER
7BV24U	713.6	-0.89	49.9	753.5	-0.83	52.4	4	LL
ABF9GD	733.6	-0.54	36.5	796.6	0.49	43.4	4	LL
B688VA	751.4	-0.23	15.1	745.0	-1.09	29.3	4	TB
DN2FBK	808.4	0.78	5.6	799.7	0.58	55.2	4	LG
EJ3LQN	740.6	-0.42	71.9	761.3	-0.59	51.7	3	ES
GK3H69	852.0	1.55	33.3	825.3	1.37	35.5	4	LH
GKHYZ2	739.4	-0.44	18.9	761.3	-0.59	32.9	4	LG
HY3WMH	758.0	-0.11	74.8	759.8	-0.64	50.7	4	ER
LTLC98	854.9	1.60	20.3	822.3	1.28	26.1	4	LN
R78XT3	752.4	-0.21	48.8	736.5	-1.35	44.8	4	LG
TK3EKL	746.6	-0.31	83.0	785.6	0.15	60.4	4	LL
TTXGLX	787.0	0.40	59.5	791.9	0.35	84.1	4	LS
VAEK3A	753.8	-0.19	31.4	766.7	-0.43	32.9	3	LG
VFYM3Y	752.0	-0.22	31.5	737.9	-1.31	30.5	2	TO
X2GEGL	752.2	-0.21	61.0	797.5	0.52	94.5	3	EX
XRQTBN	671.2	-1.64	31.0	759.9	-0.63	48.1	4	LH

Consensus (All Labs) Results

Month Mean	764.30	**Grand Mean**	780.59
Avg SDr	43.74	**Avg SDr**	49.15
SD btwn Labs	56.66	**SD btwn Labs**	32.59
Labs Incld	20	**Labs Incld**	20

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	762.95	71.39	1.36	6
Clip sealing	764.49	56.38	0.18	12
Tape sealing	767.26	22.43	2.96	2

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

(LS) - Lansmont Squeezer

(TE) - Testometric M500 - 25 KN

(ES) - Emerson 8510

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

(LL) - Lansmont 76-5K

(LN) - Lansmont 152-50k

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

(TO) - Tinius Olsen Model not specified

Report #538

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

	Monthly Results			Cumulative Results				
WebCode	**Mean**	**CPV**	**SDr**	**Mean**	**CPV**	**SDr**	**Months**	**Inst**
2YTCYN	42.8	0.96	5.1	38.5	-0.39	3.8	4	TD
3QV26J	35.8	-1.24	0.7	36.3	-1.36	1.0	4	LC
F78XNL	39.1	-0.22	1.7	39.9	0.19	1.2	4	TB
LTLC98	41.6	0.59	2.1	40.6	0.51	1.9	4	EN
R78XT3	40.9	0.35	1.0	40.9	0.62	1.0	1	TB
TTXGLX	39.7	-0.01	1.0	39.0	-0.17	1.3	4	LD
VAEK3A	43.5	1.18	1.6	43.4	1.74	2.2	3	LC
Z8WWNE	34.6	-1.62	2.7	36.8	-1.13	2.4	4	XX

Consensus (All Labs) Results

Month Mean	39.75	**Grand Mean**	39.44	
Avg SDr	2.40	**Avg SDr**	2.06	
SD btwn Labs	3.15	**SD btwn Labs**	2.30	
Labs Incld	8	**Labs Incld**	8	

Instrument Code List as Reported by the Labs

(EN) - Emerson 2200

(LD) - L&W Crush Tester 248

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

(LC) - L&W Crush Tester 48

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

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

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT7
TAPPI T839
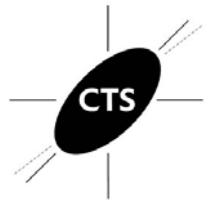
| WebCode | Monthly Results | | | Cumulative Results | | | | |
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2PNFZR	41.7	0.04	1.7	43.5	1.11	2.1	4	XX
2XMRCN	42.7	0.53	1.0	43.0	0.75	1.1	4	TG
384VWT	40.9	-0.39	1.0	40.2	-1.14	1.0	4	EM
3HN3TW	43.5	0.99	1.1	42.9	0.71	1.8	2	LC
3QV26J	40.0	-0.83	1.0	40.8	-0.69	1.1	4	LC
6MURVT	42.0	0.18	1.3	42.0	0.11	1.4	4	EM
6WEYRW	44.3	1.40	1.2	43.5	1.12	1.1	4	LD
79B6LV	42.9	0.64	1.4	42.6	0.51	1.7	4	EN
7BV24U	40.3	-0.70	2.3	40.9	-0.68	2.4	4	LC
ABF9GD	41.7	0.02	1.3	41.5	-0.27	1.1	4	BU
AWJUGK	38.0	-1.91	1.1	38.0	-2.62*	1.1	1	WK
B4CNRM	42.1	0.23	1.5	39.9	-1.30	1.4	4	TK
B688VA	41.3	-0.20	0.5	40.8	-0.75	0.7	4	LC
BGYWNN	42.3	0.35	1.3	41.8	-0.02	1.2	4	TM
CDYZPL	42.5	0.46	1.6	43.4	1.04	1.3	4	LD
CDZ37D	41.9	0.15	1.9	42.2	0.25	1.4	4	EX
D7RXTK	38.4	-1.69	0.5	37.2	-3.15X	0.7	2	LC
EJ3LQN	44.3	1.40	1.3	43.8	1.30	1.4	4	LD
F78XNL	42.5	0.45	1.5	41.6	-0.17	1.5	4	TG
FCVLLC	44.4	1.45	0.5	45.0	2.09*	1.1	4	CT
GKHYZ2	39.1	-1.34	2.4	40.5	-0.89	2.2	4	EM
HY3WMH	43.9	1.19	2.2	43.0	0.74	1.7	4	LD
LTLC98	43.6	1.05	1.4	42.9	0.66	1.5	4	EN
R8MZ2W	39.4	-1.20	0.9	42.2	0.20	1.0	4	LC
TTXGLX	42.7	0.54	1.2	42.5	0.45	1.6	4	LD
UL8NM4	41.9	0.15	1.0	41.9	0.00	1.4	4	LC
UQ2LCU	39.3	-1.20	2.7	39.9	-1.32	2.2	4	LD
VAEK3A	43.3	0.86	1.5	42.5	0.42	2.0	3	LC
X2GEGL	40.5	-0.57	1.9	41.2	-0.44	1.4	4	TL
XRQTBN	37.7	-2.05 *	3.0	40.1	-1.18	2.1	4	EM

Consensus (All Labs) Results

Month Mean	41.63	Grand Mean	41.87
Avg SDr	1.56	Avg SDr	1.54
SD btwn Labs	1.91	SD btwn Labs	1.48
Labs Incld	30	Labs Incld	29

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT7
TAPPI T839

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester

(EM) - Emerson 1200 Series

(EX) - Emerson (model not specified)

(LD) - L&W Crush Tester 248

(TK) - TLS Compression Tester, Model 5184

(TM) - TMI/Hinde & Dausch

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

(CT) - Con-Ten

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

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

(TL) - Tech-Lab Systems Compression

(WK) - Zwick Z005 Crush Tester

Report #538

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
2PNFZR	94.6	97.8	94.9*	99.6	96.7	-1.94	10.5	2.4	96.1	-2.61*	9.9	2.5	12	LA
2ZNRCK	No Data	No Data	104.2 L	101.1 L	102.7	-0.40	2.0	2.2	101.1	-0.98	2.2	1.6	6	AH
3JJMK3	106.7	111.0	111.8	109.3	109.7	1.45	9.2	2.3	108.9	1.57	7.7	1.9	12	LA
3T6286	109.7	102.5	105.9	102.9	105.3	0.28	9.6	3.3	103.2	-0.29	9.9	3.0	12	LA
4B4EHR	109.4	106.7	108.9	111.6	109.2	1.31	8.9	2.0	106.4	0.75	7.9	2.5	12	LC
642PER	104.3	104.4	101.4	104.3 L	103.6	-0.15	8.7	1.5	103.5	-0.20	8.5	1.4	8	LC
6EJ9XN	109.4	110.4	103.3	110.1	108.3	1.08	8.5	3.4	110.1	1.95	10.8	3.1	12	TB
6MURVT	100.2	99.0	101.8	99.1	100.0	-1.09	6.5	1.3	101.6	-0.82	7.3	3.0	12	AH
78GJUP	100.6	104.2	102.4	102.2	102.4	-0.47	7.5	1.5	102.7	-0.45	8.6	2.4	12	LC
7CP6F2	110.0	107.6	107.8	112.3	109.4	1.37	10.4	2.2	109.0	1.60	9.3	2.7	12	LC
8DXJGF	101.2	104.4	104.2	102.4	103.1	-0.29	5.5	1.5	104.4	0.09	6.6	1.6	12	TB
8NHT6A	114.8	120.3 X	115.5*	115.6*	116.6	3.24 X	11.2	2.5	118.1	4.58 X	10.3	6.5 H	12	AH
9KCHUR	113.2	110.9	109.5	103.2	109.2	1.32	7.7	4.3	107.5	1.10	8.5	7.4 H	12	LA
9WN89M	99.7	101.6	97.9	105.0	101.1	-0.81	11.9	3.0	100.3	-1.24	11.1	2.7	12	LA
9Y94QL	105.4	107.4	111.4	104.0	107.0	0.75	10.2	3.2	106.0	0.64	10.4	2.2	12	LZ
AD6HQE	103.9	109.5	100.4	99.3 L	103.3	-0.23	8.5	4.6	103.5	-0.19	7.5	3.8	12	LC
AK7MNQ	102.5	105.4	108.6	109.6	106.5	0.61	9.0	3.2	104.6	0.17	9.3	2.6	12	LZ
AUDMXR	100.9	105.0	104.8	101.0	102.9	-0.32	10.9	2.3	102.8	-0.41	10.9	2.6	12	AH
BEYJCW	106.4	107.4	109.7	103.8	106.8	0.70	7.3	2.4	105.7	0.54	7.1	1.6	12	AH
BG6BXH	106.8	103.0	87.4 X	94.3*	97.9	-1.65	8.9	8.7 H	107.4	1.08	11.3	11.1 H	10	TB
CDYZPL	113.8	109.9	107.5	115.5*	111.7	1.97	6.4	3.6	108.4	1.40	6.6	3.4	12	AA
DBPJKM	100.1	110.6	103.9	104.2	104.7	0.14	11.1	4.4	104.3	0.06	10.0	2.8	12	LC
DN2FBK	108.1	106.3	101.0	102.5	104.5	0.08	8.7	3.3	105.1	0.34	9.3	2.1	12	AH
DQJYTT	108.5	114.4*	106.7	109.2	109.7	1.45	7.1	3.3	109.4	1.75	8.0	2.9	12	TB
DWR8CJ	115.1*L	114.0*	113.1 L	113.9*L	114.0	2.58*	6.1	0.8	115.2	3.63 X	7.6	3.6	12	LA
E63RB9	104.2	104.0	103.2	105.9	104.3	0.04	6.1	1.1	104.1	0.00	5.5	1.3	12	AH
EJ3LQN	106.2	102.3	105.7	105.7	105.0	0.21	10.6	1.8	105.1	0.34	10.8	2.9	12	LA
EKRWGG	103.9	99.7	102.0	100.1	101.4	-0.72	10.9	1.9	104.4	0.10	11.4	4.4	12	LC
FCVLLC	99.8	102.7	94.5*H	101.2 H	99.6	-1.21	14.0	3.6	102.4	-0.56	13.6	5.6	12	XX
FGLT77	95.4	98.5	100.2	97.5	97.9	-1.64	8.1	2.0	97.7	-2.08*	8.9	4.8	12	XX
GK3H69	106.3 H	109.5	106.0	104.5	106.6	0.63	12.6	2.1	104.9	0.27	11.0	2.5	12	AA
GVJFUD	99.3	98.5	105.9	104.0	101.9	-0.59	8.9	3.6	100.1	-1.31	8.3	2.6	12	LA
HJMFWF	102.5 L	101.3 L	101.7 L	103.6 L	102.3	-0.49	3.2	1.0	101.3	-0.91	3.8	1.1	12	XX
HY3WMH	101.1	102.7	101.9	99.2	101.2	-0.77	9.0	1.5	101.3	-0.92	10.1	2.0	12	AH
JZTF4A	105.4	104.9	104.2	99.9	103.6	-0.14	8.5	2.5	105.6	0.48	10.4	3.2	12	LC
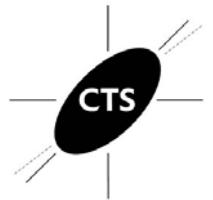
Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B4
TAPPI Official Test Method T807

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**					
K8PCRC	102.7	103.0	103.8	106.6	104.0	-0.04	10.9	1.8	104.0	-0.04	11.0	2.3	12	AH
L6C7K2	92.0*	99.4	93.9*	104.7	97.5	-1.74	9.6	5.7	100.2	-1.28	8.5	6.2 H	8	LC
NA2JGA	105.5	100.0	100.5	103.4	102.3	-0.48	10.1	2.6	103.5	-0.21	10.6	3.2	12	AX
NKFKRA	101.5	98.6	109.9	102.9	103.2	-0.24	10.6	4.8	101.7	-0.78	9.6	3.6	12	LJ
PFKBW2	108.8	107.5	107.9	No Data	108.1	1.02	5.0	0.7	108.7	1.50	5.0	1.6	10	XX
PYHBA8	98.9	104.8	103.7	104.4	103.0	-0.32	10.7	2.7	104.8	0.24	10.0	3.4	12	LJ
R78XT3	101.9	96.0	104.4	99.8	100.5	-0.95	9.2	3.6	99.7	-1.45	9.5	3.4	11	LA
TTXGLX	112.8	105.9	105.4	103.5	106.9	0.72	10.6	4.1	106.6	0.83	10.6	2.9	11	AH
TXALG7	104.6	105.0	106.9	108.1	106.1	0.51	9.8	1.6	106.8	0.87	9.1	3.9	12	LA
UQ2LCU	No Data	102.9	108.7	103.7	105.1	0.24	10.7	3.1	105.3	0.41	9.6	2.4	11	AA
VAEK3A	109.2 H	106.0	107.2	No Data	107.5	0.87	11.5	1.6	107.5	1.13	11.0	2.5	11	LZ
VEACB7	97.6	98.3	99.8	98.2	98.5	-1.49	9.9	0.9	100.7	-1.10	9.4	3.4	11	LC
VNDC3T	108.8 L	107.8	107.2	104.2 L	107.0	0.74	4.4	2.0	103.6	-0.16	5.1	4.0	8	RE
XKM3PX	100.4	102.9	100.3	104.6	102.1	-0.55	10.5	2.1	102.8	-0.42	10.0	1.9	12	LA
Y4URFZ	96.7	105.4	99.5	105.8	101.9	-0.60	9.4	4.5	103.2	-0.27	10.0	3.5	12	TB
ZPV6PX	100.8	104.7	103.5	96.2	101.3	-0.75	9.8	3.8	102.4	-0.56	9.8	3.0	12	LA

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4						
Wk Mean	104.32	104.61	104.49	104.15	**Month Mean**	104.16		**Grand Mean**	104.08	
Avg SDr	9.22	9.38	9.27	9.33	**Avg SDr**	9.21		**Avg SDr**	9.26	
SD btwn Labs	5.32	4.31	4.56	4.68	**SD btwn Labs**	3.82		**SD btwn Labs**	3.06	
Labs Incld	49	49	50	49	**SD btwn Wks**	3.10		**SD btwn Wks**	3.53	
Labs Excld	0	1	1	0	**Labs Incld**	50		**Labs Incld**	49	
Labs not rcvd	2	1	0	2						

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

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
2PNFZR	150.7	150.3	148.7	146.9	149.2	-1.89	10.4	1.7	149.4	-1.81	12.0	2.2	12	LA
2ZNRCK	No Data	No Data	158.4 L	156.8 L	157.6	-0.02	2.8	1.1	155.3	-0.62	6.8	2.0	6	AH
3JJMK3	181.2 X	170.9	169.2	169.6	172.7	3.34 X	11.8	5.7	169.8	2.36 *	8.5	3.8	12	LA
3T6286	160.8	165.9	157.4	160.4	161.1	0.76	10.7	3.5	157.2	-0.21	12.1	4.4	12	LA
4B4EHR	159.7	160.2	161.8	163.0	161.2	0.77	12.0	1.5	160.0	0.36	12.4	3.4	12	LC
642PER	165.7	163.9	152.0	153.5	158.8	0.24	13.6	7.0	157.3	-0.20	14.1	5.5	8	LC
6EJ9XN	166.3	160.6	169.2	167.7	166.0	1.83	11.6	3.7	165.5	1.49	12.7	4.0	10	TB
6MURVT	158.7	159.7	151.5	155.4	156.3	-0.31	9.3	3.7	158.3	0.01	8.8	3.7	12	AH
78GJUP	155.9	152.8	152.2	155.7	154.2	-0.79	13.7	1.9	153.7	-0.94	11.4	3.0	12	LC
7CP6F2	166.4	169.4	167.7	161.0	166.1	1.87	13.6	3.6	161.9	0.75	12.7	4.3	12	LC
8DXJGF	161.4	160.8	164.3	160.4	161.7	0.89	8.9	1.8	159.2	0.19	8.9	4.4	12	TB
8NHT6A	170.7 *	170.2	164.0	167.7	168.2	2.32 *	9.9	3.1	168.6	2.11 *	10.2	6.8	12	AH
9KCHUR	169.1	167.1	158.6	166.6	165.4	1.70	9.0	4.6	164.0	1.17	9.5	6.1	12	LA
9WN89M	148.2	151.2	150.5	156.6	151.6	-1.35	11.1	3.6	152.3	-1.23	11.8	3.2	8	LA
9Y94QL	148.5	156.4	164.6	158.6	157.0	-0.15	13.2	6.6	159.9	0.33	13.4	4.4	12	LZ
AD6HQE	157.7	167.4	153.8	159.1 L	159.5	0.40	9.8	5.7	162.8	0.93	10.4	5.2	12	LC
AK7MNQ	160.9	157.8	158.2	155.4	158.1	0.09	12.0	2.3	156.1	-0.44	10.7	4.3	12	LZ
AUDMXR	160.0	162.3	156.3	156.9	158.9	0.26	11.2	2.8	159.5	0.26	12.0	3.8	11	AH
BEYJCW	154.0	157.3	157.9	158.2	156.8	-0.19	7.5	1.9	154.6	-0.76	8.9	2.9	12	AH
BG6BXH	150.2	147.1	126.2 X	134.5 X	139.5	-4.04 X	12.1	11.1 H	147.0	-2.30 *	12.8	11.8 H	10	TB
CDYZPL	185.7 XL	167.9	171.9 *	172.6 *	174.5	3.74 X	8.9	7.7 H	163.2	1.02	8.7	9.6 H	12	AA
DBPJKM	150.3	152.6	156.2	158.2	154.3	-0.75	11.4	3.5	155.4	-0.59	11.6	3.1	11	LC
DN2FBK	164.5	162.9	164.0	159.8	162.8	1.13	12.9	2.1	162.4	0.84	12.3	2.1	12	AH
DQJYTT	172.2 *	167.6	173.1 *	172.8 *	171.4	3.05 X	13.2	2.6	170.2	2.44 *	12.7	3.5	12	TB
DWR8CJ	159.2 L	150.7	160.8 L	162.8 L	158.4	0.15	4.6	5.3	162.9	0.95	8.3	7.2	12	LA
E63RB9	156.0	157.9	159.1	157.1	157.5	-0.04	8.4	1.3	157.9	-0.08	8.6	1.5	12	AH
EJ3LQN	161.1	163.2	155.6	158.2	159.5	0.41	12.6	3.3	159.5	0.26	12.8	3.0	12	LA
EKRWGG	155.0	154.7	157.4	157.5	156.1	-0.35	11.6	1.5	156.2	-0.41	13.6	4.7	12	LC
FCVLLC	161.9 H	162.8	161.8	162.6	162.3	1.02	15.2	0.5 L	162.9	0.95	12.9	2.1	12	XX
FGLT77	147.2	151.8	150.7	153.1	150.7	-1.55	13.9	2.5	149.7	-1.75	12.1	2.9	12	XX
GK3H69	157.0	153.0	150.0	154.5	153.6	-0.90	11.3	2.9	154.3	-0.82	11.0	3.3	12	AA
GVJFUD	154.6	147.7	160.8	161.1 H	156.1	-0.36	16.8	6.3	155.4	-0.59	13.4	5.2	12	LA
HJMFWF	157.6	155.3	157.4 L	157.3	156.9	-0.17	5.6	1.1	159.7	0.30	6.6	2.8	12	XX
HY3WMH	154.7	155.6	152.1	149.2	152.9	-1.06	10.1	2.9	154.6	-0.75	11.4	4.2	12	AH
JZTF4A	160.2	158.8	155.7	153.7	157.1	-0.13	10.0	2.9	159.0	0.16	13.2	8.1 H	12	LC
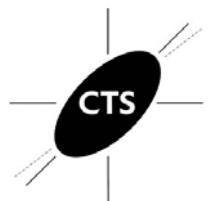
Containerboard Interlaboratory Testing Program
Analysis 206
Bursting Strength (Mullen), 69 lb Linerboard - 69C1
TAPPI Official Test Method T807

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
K8PCRC	159.8	153.1	154.2	149.6	154.2	-0.78	10.1	4.2	154.3	-0.81	10.5	4.2	12	AH
L6C7K2	154.1	158.4	156.0	155.0	155.9	-0.40	11.8	1.8	154.1	-0.86	11.3	3.2	8	LC
NA2JGA	154.2	153.8	158.5	158.1	156.2	-0.34	9.2	2.5	157.9	-0.07	11.8	4.2	12	AX
NKFKRA	159.9	159.2	153.6	158.8	157.9	0.04	12.7	2.9	160.4	0.43	12.6	3.3	12	LJ
PFKBW2	153.8	154.6	155.0	No Data	154.5	-0.72	5.7	0.6 L	156.0	-0.46	5.0	1.4	10	XX
PYHBA8	156.5	156.1	148.1	152.2	153.2	-0.99	14.9	3.9	155.7	-0.52	13.4	4.8	12	LJ
R78XT3	155.5	158.2	161.9	160.0	158.9	0.27	9.4	2.7	157.3	-0.20	10.3	2.8	12	LA
TTXGLX	162.1	162.8	154.2	148.3	156.9	-0.19	11.8	6.9	159.1	0.17	12.5	5.6	11	AH
TXALG7	161.1	157.7	158.6	153.2	157.7	-0.01	11.2	3.3	157.4	-0.18	11.2	3.4	12	LA
UQ2LCU	No Data	162.3	157.3	157.2	158.9	0.27	9.6	2.9	158.9	0.12	11.8	3.8	11	AA
VAEK3A	165.1	155.3	158.6	No Data	159.7	0.44	14.4	5.0	158.3	0.01	13.1	4.0	11	LZ
VEACB7	160.4	155.1	155.1	149.7	155.0	-0.59	12.6	4.4	155.7	-0.53	11.9	3.2	11	LC
VNDC3T	169.8	169.4	No Data	No Data	169.6	2.64*	9.5	0.3 L	167.2	1.82	9.2	3.5	6	RE
XKM3PX	152.3	153.2	153.1	153.4	153.0	-1.05	11.8	0.5 L	155.5	-0.57	11.3	3.1	12	LA
Y4URFZ	151.9	144.8*	153.5	149.5	149.9	-1.73	10.9	3.8	153.4	-1.00	11.0	4.3	12	TB
ZPV6PX	152.3	153.4	158.9	153.7	154.6	-0.69	13.0	2.9	154.7	-0.73	11.2	2.9	12	LA

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Monthly			Cumulative
Wk Mean	158.40	158.42	157.95	157.85	Month Mean	157.70		Grand Mean	158.27
Avg SDr	11.84	11.13	11.24	11.29	Avg SDr	11.26		Avg SDr	11.29
SD btwn Labs	6.09	6.40	5.85	5.99	SD btwn Labs	4.50		SD btwn Labs	4.89
Labs Incld	47	50	49	47	SD btwn Wks	3.51		SD btwn Wks	4.53
Labs Excld	2	0	1	1	Labs Incld	47		Labs Incld	51
Labs not rcvd	2	1	1	3					

Instrument Code List as Reported by the Labs

(AA) - Perkins Model A

(AX) - Perkins Mullen Tester (model not specified)

(LC) - L & W Autoline

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

(TB) - TMI Monitor/Burst 1000

(AH) - Perkins Model AH

(LA) - L & W Bursting Strength Tester

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

(RE) - Regmed/Mullen Tester

(XX) - Instrument make/model not specified by lab
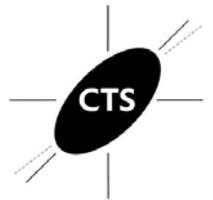
Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
TAPPI Official Test Method T822

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				
2PNFZR	97.1	93.0	97.1	94.0	95.3	-0.90	4.2	2.1	95.5	-1.10	3.7	2.2	12	LC
2XMRCN	97.9	97.2	97.0	96.6	97.2	-0.53	3.5	0.5 L	97.5	-0.68	3.1	0.5 L	12	TH
2YTCYN	93.2	95.4	95.0	93.3	94.2	-1.11	3.4	1.1	95.5	-1.11	3.5	2.1	12	TD
2ZNRCK	102.4 L	99.8 L	101.4	99.6	100.8	0.18	2.4	1.3	100.4	-0.05	2.3	1.0	12	LD
384VWT	93.3	94.1	93.2	91.6 L	93.1	-1.35	3.8	1.0	93.2	-1.61	3.5	1.0	12	EX
3JJMK3	101.1	100.8 L	101.7	101.6	101.3	0.28	2.7	0.4 L	101.7	0.23	2.5	0.5 L	12	LZ
3T6286	89.6	89.5	89.8	90.6	89.9	-1.98	3.9	0.5 L	93.2	-1.61	4.0	2.8	12	LC
4B4EHR	91.5	91.7	90.8	96.9	92.7	-1.41	3.4	2.8	97.3	-0.71	3.5	3.9	12	LC
642PER	100.0 H	101.1 H	99.0 H	100.5	100.1	0.05	7.9	0.9	99.6	-0.21	7.9	0.8	8	LA
6EJ9XN	89.9	102.1	97.5	98.2	96.9	-0.58	4.2	5.1	96.4	-0.90	3.8	3.7	12	LC
6MURVT	99.7	100.9 L	100.1 L	100.0 L	100.2	0.06	1.9	0.5 L	100.3	-0.07	2.5	1.9	12	EM
767LEM	No Data	102.5	No Data	96.7	99.6	-0.05	5.8	4.1	101.2	0.14	5.0	2.9	10	MB
78GJUP	91.2	105.7	91.8	90.7	94.8	-1.00	3.9	7.3 H	94.2	-1.39	3.6	5.1	12	LD
79B6LV	95.4	98.5	95.1	95.6	96.1	-0.74	3.9	1.6	97.1	-0.76	3.8	2.1	12	EN
8DXJGF	99.1	99.2	98.8	99.5	99.1	-0.15	2.9	0.3 L	98.9	-0.37	2.8	0.5 L	12	TH
8NHT6A	107.2	109.1	108.6	113.0 *	109.5	1.90	5.3	2.5	109.5	1.93	4.3	2.5	12	LZ
9E6DHX	51.2 XL	53.1 X	49.6 XL	53.8 X	51.9	-9.47 X	2.9	1.9	54.1	-10.09 X	3.8	2.5	12	MB
9KCHUR	101.9	99.9	97.8	97.3	99.2	-0.13	4.0	2.1	99.4	-0.27	4.0	2.5	12	LZ
AK7MNQ	96.0	95.8	96.8	100.5	97.3	-0.52	3.5	2.2	98.4	-0.48	4.1	2.0	12	LC
BEYJCW	99.6	99.8	100.6	98.7	99.7	-0.04	4.2	0.8	101.1	0.10	4.1	2.0	12	LC
BG6BXH	107.2	103.8	77.4 XH	82.9 XH	92.8	-1.39	7.9	14.9 H	99.8	-0.17	6.4	11.4 H	10	LC
CDYZPL	99.6	101.6	99.2	100.8 L	100.3	0.08	2.8	1.1	101.5	0.20	2.8	1.3	12	LD
DQJYTT	107.4	109.0	109.7	107.3	108.3	1.67	4.2	1.2	109.2	1.87	4.8	1.6	12	LX
DWR8CJ	107.5	108.4	108.7	109.1	108.4	1.69	2.4	0.7	109.8	2.00	2.8	3.0	12	LD
EKRWGG	105.1	101.9	106.2	105.8	104.8	0.97	4.2	1.9	105.9	1.15	4.5	2.7	12	TC
FGLT77	103.2	108.6	105.0	108.3	106.3	1.26	5.1	2.6	106.2	1.22	4.9	2.8	12	LZ
GKHYZ2	89.6	94.5	94.2	95.6	93.5	-1.27	3.4	2.6	92.8	-1.69	3.2	4.4	12	EM
GVJFUD	98.7	100.5	100.2	97.1	99.1	-0.15	4.2	1.5	99.5	-0.23	3.8	1.0	12	LC
HJMFWF	99.7	102.7	102.8 L	100.8	101.5	0.32	3.6	1.5	104.2	0.78	3.1	2.4	12	XX
HY3WMH	96.0	94.8	99.1	100.5 L	97.6	-0.45	3.8	2.6	99.7	-0.20	3.8	2.5	12	LD
JZTF4A	107.3	108.1	108.8	107.6	108.0	1.60	4.3	0.7	107.2	1.44	4.1	1.8	12	LC
K8PCRC	110.4 H	108.5	112.3 *	107.3	109.6	1.92	8.6	2.2	107.5	1.49	6.1	2.5	12	LC
L2CXE7	94.5	90.2	100.4	104.1 H	97.3	-0.51	4.9	6.1	98.7	-0.42	5.3	3.9	12	LC
L6C7K2	97.1	100.6	95.1	104.1	99.2	-0.13	3.7	4.0	100.0	-0.12	3.9	3.4	8	LD
MY46YX	97.1	94.8 H	100.1	101.9	98.5	-0.27	5.3	3.2	99.0	-0.34	4.0	2.2	12	LC

Report #538

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
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
NA2JGA	101.9	97.1	97.5	101.5	99.5	-0.07	4.6	2.6	103.3	0.59	4.6	3.9	12	LX
NKFKRA	101.0	99.1	101.2 H	No Data	100.4	0.10	5.4	1.2	100.5	-0.02	5.0	2.1	11	LD
PFJ9FA	100.1	100.4	98.6	98.7	99.4	-0.09	3.3	0.9	100.8	0.05	3.6	2.1	12	LD
PFKBW2	95.6	106.8	97.0	No Data	99.8	-0.01	5.0	6.1	101.5	0.20	4.5	4.5	10	XX
PYHBA8	91.3	90.6	90.8	93.1	91.4	-1.67	3.6	1.1	90.6	-2.17 *	3.9	2.6	12	LC
QDU4EP	106.9	108.2	103.5 H	104.9	105.9	1.19	5.5	2.1	108.3	1.67	5.8	11.8 H	8	XX
QGTHZU	104.4	101.7	102.3	98.6	101.7	0.37	3.4	2.4	100.4	-0.03	3.4	2.6	8	EM
QZN7CB	108.2 L	107.0	104.8	103.0	105.7	1.16	2.7	2.3	105.0	0.96	3.1	2.3	12	LD
TTXGLX	99.5	99.6	100.6	99.5	99.8	-0.02	3.4	0.5 L	100.1	-0.11	3.5	1.0	12	LC
TXALG7	100.1	96.5	98.5	98.6	98.4	-0.29	3.3	1.5	99.5	-0.25	3.3	2.7	12	LD
UQ2LCU	No Data	94.8	95.7	95.7	95.4	-0.88	2.6	0.5 L	95.9	-1.03	2.8	1.0	11	LD
VAEK3A	103.3	106.6	101.1	No Data	103.7	0.75	2.6	2.8	102.2	0.34	2.7	3.2	11	LC
VEACB7	115.6 *	110.0	112.1 *	112.4 *	112.5	2.50 *	5.3	2.3	110.6	2.17 *	5.3	3.0	10	LC
VNDC3T	105.4	106.0	105.6	105.6	105.6	1.14	4.0	0.3 L	104.1	0.75	3.4	1.8	8	LZ
XKM3PX	102.8	98.8	100.8	101.7	101.0	0.23	3.4	1.7	101.8	0.25	3.7	1.8	12	LD
XRQTBN	94.0	96.3	96.6	95.8	95.7	-0.83	3.9	1.2	97.8	-0.60	4.0	4.1	12	EM
Y4URFZ	104.2	100.9	93.4	102.4	100.2	0.07	4.5	4.7	99.8	-0.16	4.6	5.8	12	LZ
ZPV6PX	101.7	90.2	101.6	86.2 *H	94.9	-0.98	6.6	7.9 H	97.5	-0.68	6.1	7.3 H	12	LC

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Month				Grand	
Wk Mean	100.04	100.28	99.91	100.05	**Month Mean**	99.87			**Grand Mean**	100.59	
Avg SDr	4.72	4.32	3.85	4.11	**Avg SDr**	4.38			**Avg SDr**	4.16	
SD btwn Labs	5.85	5.61	5.35	5.62	**SD btwn Labs**	5.06			**SD btwn Labs**	4.61	
Labs Incld	50	52	50	48	**SD btwn Wks**	3.46			**SD btwn Wks**	3.63	
Labs Excld	1	1	2	2	**Labs Incld**	52			**Labs Incld**	52	
Labs not rcvd	2	0	1	3							

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				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2PNFZR	131.1	129.0	129.1	126.2	128.9	-0.38	3.6	2.0	127.0	-0.82	3.7	3.4	12	LC
2XMRCN	130.0	129.0 L	129.3 L	129.6	129.5	-0.30	2.4	0.4 L	127.2	-0.79	2.9	3.4	12	TH
2YTCYN	146.1 L	148.1 L	147.9 *L	146.3 L	147.1	1.97	1.6	1.0	146.3	1.92	2.1	1.2	12	TD
2ZNRCK	131.3	132.8	129.7 L	134.1	131.9	0.02	3.1	1.9	132.8	0.00	3.9	2.1	12	LD
384VWT	125.5	129.2	127.3	127.7	127.4	-0.56	3.4	1.5	126.8	-0.85	3.1	1.5	12	EX
3JJMK3	133.6	133.9 L	133.9	133.8	133.8	0.25	2.2	0.1 L	134.4	0.24	2.0	0.7 L	12	LZ
3T6286	122.5	118.6	120.8	112.8 *	118.7	-1.69	4.9	4.2	124.6	-1.16	4.7	5.3	12	LC
4B4EHR	124.2	127.4	120.9	126.1	124.7	-0.92	2.4	2.8	127.9	-0.69	3.0	3.3	12	LC
642PER	121.0	124.6	123.9	119.7	122.3	-1.22	5.3	2.3	126.4	-0.90	5.2	4.7	8	LA
6EJ9XN	137.2	139.7	136.6	137.5	137.8	0.77	4.7	1.4	135.4	0.38	4.2	2.9	10	LC
6MURVT	122.7 L	119.8	121.9	121.4	121.5	-1.33	2.7	1.2	125.2	-1.08	2.4	4.3	12	EM
767LEM	No Data	126.9	No Data	137.5	132.2	0.05	3.6	7.5	134.4	0.23	3.0	6.7	10	MB
78GJUP	139.5	133.2	140.2	126.0	134.7	0.37	4.3	6.6	135.4	0.37	4.2	6.8	12	LD
79B6LV	129.9	127.4	124.2	117.7	124.8	-0.91	3.5	5.3	126.3	-0.92	3.3	3.3	12	EN
8DXJGF	132.2	131.7	132.3	132.2	132.1	0.04	2.6	0.2 L	131.9	-0.12	3.0	1.4	12	TH
8NHT6A	146.2	135.4	144.4	143.8	142.4	1.36	3.8	4.8	143.9	1.59	4.1	4.4	12	LZ
9E6DHX	82.0 XH	81.7 X	84.1 XH	87.5 X	83.9	-6.16 X	7.1	2.7	97.8	-4.97 X	6.9	17.1 H	12	MB
9KCHUR	123.7	135.3	131.1	126.6	129.2	-0.34	3.8	5.1	128.4	-0.63	4.0	3.5	12	LZ
AK7MNQ	131.5	130.2	128.0	131.0	130.2	-0.21	4.3	1.5	128.8	-0.56	3.9	3.1	12	LC
BEYJCW	135.6	138.4	142.2	141.4	139.4	0.98	2.6	3.0	139.6	0.97	3.2	2.0	12	LC
BG6BXH	136.7	143.5	115.1 *H	91.6 XH	121.7	-1.30	11.9	23.5 H	132.2	-0.09	8.6	18.0 H	10	LC
CDYZPL	138.5	137.6	136.3	138.3	137.7	0.75	3.3	1.0	138.0	0.74	3.2	1.6	12	LD
DQJYTT	147.8 *	148.6	147.8 *	149.1	148.3	2.12 *	3.5	0.6 L	147.3	2.06 *	3.9	1.8	12	LX
DWR8CJ	145.8	144.5	144.1	149.7 *	146.0	1.83	3.7	2.6	143.6	1.54	3.6	5.1	12	LD
EKRWGG	135.4	145.5	134.1	140.0	138.8	0.89	4.2	5.2	140.8	1.14	4.1	4.4	12	TC
FGLT77	141.0	144.2	138.7	144.8	142.2	1.33	3.8	2.9	140.1	1.04	3.8	4.5	12	LZ
GKHYZ2	122.1 H	119.7	122.7	126.8	122.8	-1.16	10.7	3.0	124.6	-1.15	6.8	4.4	12	EM
GVJFUD	131.0 L	129.4	No Data	130.1	130.1	-0.22	4.1	0.8 L	130.6	-0.31	4.0	2.8	10	LC
HJMFWF	134.0	133.8	135.4	136.2	134.8	0.39	2.8	1.1	137.6	0.69	3.4	2.9	12	XX
HY3WMH	133.0	132.6	135.8	129.4	132.7	0.12	4.5	2.6	133.0	0.03	3.8	2.6	12	LD
JZTF4A	145.8	144.1	140.3	139.7	142.5	1.37	3.8	3.0	144.3	1.63	4.3	2.3	12	LC
K8PCRC	127.5	129.8	126.1	127.2	127.7	-0.53	4.2	1.6	129.7	-0.43	4.7	4.2	12	LC
L2CXE7	116.8 *	110.6 *	117.4	122.5	116.9	-1.92	4.0	4.9	116.3	-2.34 *	4.0	3.8	12	LC
L6C7K2	131.5	128.5	123.1	131.5	128.6	-0.41	3.0	4.0	131.9	-0.13	3.6	4.7	8	LD
MY46YX	127.3	133.0	135.2	133.1	132.1	0.04	3.6	3.4	131.2	-0.22	3.3	2.0	12	LC

Report #538

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**					
NA2JGA	125.8	118.0 H	130.5	127.1	125.4	-0.83	6.6	5.3	129.6	-0.45	6.2	7.1	12	LX
NKFKRA	133.5	132.9	133.5	No Data	133.3	0.19	4.8	0.4 L	132.5	-0.03	4.3	1.5	11	LD
PFJ9FA	133.7	132.0 L	132.4	133.0	132.8	0.12	3.6	0.7 L	130.8	-0.28	3.7	4.1	12	LD
PFKBW2	137.9	133.4	137.4	No Data	136.2	0.57	4.1	2.5	138.2	0.77	3.6	3.3	10	XX
PYHBA8	124.4	128.3	125.7	130.1	127.1	-0.60	3.3	2.6	126.2	-0.93	3.4	5.9	12	LC
QGTHZU	134.7	140.7	140.6	136.5	138.1	0.81	3.9	3.0	137.5	0.68	3.6	3.0	8	EM
QZN7CB	129.9	126.8	128.0	129.9	128.7	-0.40	3.3	1.5	129.0	-0.53	3.7	2.3	12	LD
TTXGLX	131.5	131.2	133.1	130.5	131.5	-0.03	3.5	1.1	133.1	0.05	3.9	2.0	12	LC
TXALG7	131.2	131.7	131.3	133.2	131.8	0.00	3.7	0.9	129.8	-0.42	4.0	2.9	12	LD
UQ2LCU	No Data	115.4	117.0 L	116.2	116.2	-2.01 *	2.6	0.8 L	118.1	-2.08 *	2.5	1.7	11	LD
VAEK3A	130.0	126.4	126.2	No Data	127.5	-0.55	2.4	2.1	129.1	-0.53	2.4	3.2	11	LC
VEACB7	156.5 X	146.8	144.0	149.7 *	149.2	2.24 *	4.9	5.4	150.8	2.57 *	6.1	5.3	10	LC
VNDC3T	137.9	135.4	136.7	137.1	136.8	0.64	3.8	1.0	135.5	0.40	3.4	1.6	8	LZ
XKM3PX	126.5 L	125.0	127.0	125.7	126.1	-0.74	3.6	0.9	127.0	-0.82	3.1	1.4	12	LD
XRQTBN	124.1	123.0	125.6	121.5 H	123.5	-1.06	5.4	1.7	129.4	-0.47	4.1	6.7	12	EM
Y4URFZ	138.1	132.8	129.0	134.4	133.6	0.23	4.3	3.7	134.9	0.31	5.2	5.8	12	LZ
ZPV6PX	135.6	130.3	134.5	132.4 H	133.2	0.18	4.9	2.3	135.6	0.41	4.2	3.5	12	LC

Consensus (All Labs) Results

Wk Mean	132.35	131.88	131.60	132.06	**Month Mean**	131.81	**Grand Mean**	132.76	
Avg SDr	4.87	3.97	4.34	3.62	**Avg SDr**	4.37	**Avg SDr**	4.05	
SD btwn Labs	7.24	8.44	8.00	8.60	**SD btwn Labs**	7.78	**SD btwn Labs**	7.04	
Labs Incld	48	51	49	47	**SD btwn Wks**	4.47	**SD btwn Wks**	4.52	
Labs Excld	2	1	1	2	**Labs Incld**	51	**Labs Incld**	51	
Labs not rcvd	2	0	2	3					

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 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**					
2PNFZR	25.3	25.4	25.6	22.5	24.7	-0.11	2.0	1.5 H	24.3	-0.48	2.4	1.1	12	LU
2ZNRCK	25.1	24.4	25.1	25.2	25.0	0.10	1.9	0.4	24.6	-0.21	1.8	0.5	12	LY
3T6286	23.7	24.4	22.7	23.1	23.5	-1.10	2.3	0.7	24.0	-0.69	2.2	1.0	12	XX
4B4EHR	23.7 L	24.0 L	23.0 L	24.9 L	23.9	-0.74	0.5	0.8	24.8	-0.02	0.5	0.9	12	LA
642PER	24.3 L	24.8 L	23.9 L	25.7 L	24.7	-0.12	0.5	0.8	25.2	0.28	0.5	1.1	8	LA
6EJ9XN	25.7	25.6	24.5	26.2	25.5	0.54	2.2	0.7	24.7	-0.12	1.9	0.8	12	LW
6TYE2B	24.3	23.8	24.7	24.2	24.2	-0.49	2.1	0.4	24.6	-0.25	1.6	0.6	12	LY
767LEM	No Data	24.7 L	No Data	26.4 L	25.6	0.58	0.1	1.2	25.3	0.39	0.1	0.6	10	LA
78GJUP	25.1 L	25.0 L	26.1 L	25.0 L	25.3	0.37	0.5	0.6	24.8	-0.02	0.5	1.1	12	LA
79B6LV	23.5	22.6 *	22.3	24.3	23.1	-1.38	2.0	0.9	23.0	-1.57	2.0	0.7	12	LU
7CP6F2	28.6 X	27.2	27.8	28.0 *	27.9	2.46 *	2.5	0.6	27.2	1.96	2.4	1.2	12	LA
8DXJGF	24.6	24.1	24.5	24.3	24.4	-0.38	1.2	0.2	24.3	-0.49	1.2	0.3	12	TT
9E6DHX	26.4 L	26.5 L	26.0 L	25.5 L	26.1	1.02	0.6	0.5	26.8	1.69	0.7	2.4 H	12	BK
9KCHUR	24.2	24.6	26.0	24.6	24.8	0.00	2.3	0.8	25.0	0.11	2.3	0.7	11	LW
9WN89M	26.3	26.1	26.4	26.3	26.3	1.16	2.7	0.1 L	26.4	1.29	2.5	0.6	12	LW
9Y94QL	25.6	26.7	25.3	26.1	25.9	0.87	2.4	0.6	26.4	1.28	2.2	1.0	12	LZ
AD6HQE	23.3 L	25.5 L	23.7 L	23.4 L	24.0	-0.70	0.4	1.0	24.1	-0.65	0.4	0.9	12	LA
AK7MNQ	25.3	24.5	24.2	24.7	24.7	-0.13	2.3	0.5	25.2	0.25	2.0	0.5	12	LW
AUDMXR	27.2	24.9	27.1	26.2	26.3	1.22	2.2	1.1	26.9	1.77	2.2	1.3	12	LU
BEYJCW	25.0	25.0	25.0	25.0	25.0	0.13	1.1	0.0 L	25.0	0.10	1.3	0.2	12	LW
CDYZPL	24.5	24.6	23.5 L	24.5	24.3	-0.47	1.4	0.5	24.0	-0.70	1.4	0.7	12	BK
CNHLNN	25.1 L	24.4 L	24.7 L	24.2 L	24.6	-0.20	0.0	0.4	24.7	-0.12	0.0	0.7	12	LU
DBPJKM	25.8	26.9	27.2	27.8 *	26.9	1.68	2.3	0.8	26.6	1.46	2.3	0.7	12	LA
DN2FBK	25.2	24.4	23.8	24.2	24.4	-0.36	2.1	0.6	24.1	-0.65	2.3	0.5	12	LW
E63RB9	24.5	24.7	24.2	24.9	24.6	-0.21	1.2	0.3	24.4	-0.40	1.1	0.4	12	TT
EKRWGG	26.4 L	26.3 L	25.7 L	27.0 L	26.4	1.22	0.4	0.5	26.0	0.97	0.5	1.0	12	LA
GVJFUD	24.8	24.7	23.9	23.8	24.3	-0.44	2.2	0.5	24.5	-0.32	1.9	0.5	12	LW
HY3WMH	24.3	24.0	24.4	25.0	24.4	-0.34	1.9	0.4	24.3	-0.46	1.8	0.4	12	LU
JE9FYE	22.7 L	23.5 L	23.3	22.4 L	22.9	-1.53	0.6	0.5	23.2	-1.42	0.7	1.3	12	LZ
JZTF4A	26.0 L	27.6 *L	28.2 *L	26.9 L	27.2	1.88	0.0	1.0	26.0	0.97	0.0	1.2	12	LA
K8PCRC	27.2	26.8 L	25.9	26.2	26.5	1.37	1.1	0.6	27.0	1.78	1.3	1.0	12	LY
L6C7K2	23.3	24.6	23.0	24.3	23.8	-0.82	1.6	0.8	24.3	-0.44	2.1	0.8	8	LZ
MY46YX	24.3	23.7	23.9	24.3	24.1	-0.63	1.6	0.3	23.2	-1.41	1.5	0.8	12	LU
NA2JGA	22.5	22.8	22.6	22.3	22.5	-1.86	2.1	0.2	22.9	-1.62	1.8	2.1 H	12	XX
NKFKRA	24.9	23.9	25.7	No Data	24.8	0.00	1.9	0.9	24.8	-0.02	2.1	0.7	11	LU

Containerboard Interlaboratory Testing Program
Analysis 223
STFI, 42 lb Linerboard - 42B4
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
QDU4EP	27.2 L	24.6 L	47.5 XL	27.2 L	31.6	5.46 X	0.2	10.7 H	31.5	5.67 X	0.2	9.5 H	8	XX
R78XT3	22.1 *	23.4	20.5 *	23.7	22.4	-1.93	1.9	1.5 H	22.9	-1.69	1.8	1.0	12	LU
TTXGLX	25.6	25.3	24.9	24.4	25.0	0.16	2.1	0.5	24.9	0.00	2.0	0.5	12	LU
UQ2LCU	No Data	23.1	22.2	22.9	22.7	-1.70	1.8	0.5	22.7	-1.80	1.9	0.3	11	LW
VAEK3A	25.4	25.0	24.4	No Data	24.9	0.06	1.9	0.5	25.1	0.17	2.0	0.9	11	LW
VEACB7	25.1 L	25.9 L	26.5 L	26.2 L	25.9	0.87	0.5	0.6	26.2	1.17	1.2	0.6	11	LA
Y4URFZ	24.2	25.3	24.6	23.7	24.4	-0.32	1.6	0.7	24.1	-0.65	2.1	1.0	12	LZ
ZPV6PX	24.9 L	25.2 L	26.4 L	24.3 L	25.2	0.28	0.6	0.9	25.5	0.54	0.7	0.9	12	LZ

Consensus (All Labs) Results								
Wk Mean	24.95	24.89	24.71	24.91	**Month Mean**	24.84	**Grand Mean**	24.85
Avg SDr	1.70	1.69	1.75	1.65	**Avg SDr**	1.71	**Avg SDr**	1.70
SD btwn Labs	1.34	1.16	1.62	1.43	**SD btwn Labs**	1.24	**SD btwn Labs**	1.18
Labs Incld	41	43	41	41	**SD btwn Wks**	0.71	**SD btwn Wks**	0.95
Labs Excld	1	0	1	0	**Labs Incld**	42	**Labs Incld**	42
Labs not rcvd	2	0	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				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2PNFZR	31.6	32.3	34.4	31.8	32.5	0.08	2.0	1.3	31.6	-0.49	1.7	1.3	12	LU
2ZNRCK	31.5	32.1	31.8	31.9	31.8	-0.27	1.3	0.3	31.4	-0.60	1.6	0.4	12	LY
3T6286	29.2	30.7	28.7	30.7	29.8	-1.27	1.5	1.0	31.0	-0.78	1.7	1.1	12	XX
4B4EHR	30.7 L	30.8 L	30.7 L	29.5 L	30.4	-0.96	0.5	0.6	30.9	-0.83	0.5	0.7	12	LA
642PER	30.6 L	30.5 L	31.0 L	30.2 L	30.6	-0.88	0.5	0.3	31.9	-0.32	0.5	1.5	8	LA
6EJ9XN	33.0	31.6	33.0	32.7	32.6	0.10	1.8	0.6	32.2	-0.18	1.7	0.6	10	LW
6TYE2B	31.9	31.7	32.1	32.0	31.9	-0.21	1.5	0.2	32.5	-0.03	1.2	1.0	12	LY
767LEM	No Data	34.4 L	No Data	35.6 L	35.0	1.33	0.1	0.8	34.0	0.75	0.1	0.9	10	LA
78GJUP	33.4 L	31.3 L	33.5 L	32.9 L	32.8	0.21	0.4	1.0	32.7	0.08	0.4	1.3	12	LA
79B6LV	31.1 H	32.1	32.2	32.1	31.9	-0.23	3.1	0.5	32.3	-0.14	2.5	0.5	12	LU
7CP6F2	37.1 *	36.4 *	36.4 *	37.4 *	36.8	2.24 *	1.8	0.5	35.5	1.55	1.8	1.2	12	LA
8DXJGF	31.2	31.5	32.3	31.6	31.6	-0.35	1.4	0.5	31.7	-0.43	1.4	0.4	12	TT
9E6DHX	32.2 L	33.6 L	33.5 L	32.9 L	33.0	0.35	0.6	0.6	37.3	2.48 *	0.8	7.9 H	12	BK
9KCHUR	32.5	33.5	33.7	32.9	33.1	0.40	1.9	0.6	33.3	0.39	1.8	0.7	11	LW
9WN89M	33.0	33.2	33.0	33.0	33.0	0.34	1.8	0.1 L	33.0	0.21	2.0	0.2 L	7	LW
9Y94QL	35.5	35.9 *	34.4	34.7	35.1	1.39	1.9	0.7	34.3	0.93	1.8	1.1	12	LZ
AD6HQE	30.6 L	30.6 L	31.3 L	32.6 L	31.3	-0.54	0.4	1.0	31.9	-0.34	0.5	0.9	12	LA
AK7MNQ	32.8	32.1	33.2	33.5	32.9	0.27	2.5	0.6	33.3	0.40	2.3	0.9	12	LW
AUDMXR	33.9	32.1	35.2	34.8	34.0	0.84	1.5	1.4	33.7	0.59	1.7	1.1	11	LU
BEYJCW	34.5	33.7	33.8	33.6	33.9	0.78	1.5	0.4	34.4	0.98	1.5	1.3	12	LW
CDYZPL	31.8	31.6	31.6	31.3	31.6	-0.39	1.1	0.2	31.3	-0.65	1.4	0.5	12	BK
CNHLNN	30.3 L	30.5 L	31.2 L	30.4 L	30.6	-0.88	0.0	0.4	31.4	-0.60	0.0	1.1	12	LU
DBPJKM	35.4	35.9 *	35.9	35.5	35.7	1.67	1.7	0.3	34.8	1.19	1.7	1.0	11	LA
DN2FBK	32.1	31.4	31.2	30.6	31.3	-0.53	1.6	0.6	30.7	-0.93	2.2	1.0	12	LW
E63RB9	30.8	30.9	32.6	32.0	31.6	-0.39	1.3	0.9	31.8	-0.40	1.3	0.7	12	TT
EKRWGG	33.8 L	33.6 L	33.0	35.1 L	33.9	0.77	0.6	0.9	33.9	0.71	0.6	0.6	12	LA
GVJFUD	32.1	31.8	30.6	31.1	31.4	-0.48	1.3	0.7	31.0	-0.78	1.4	0.8	12	LW
HY3WMH	31.4	30.2	31.0	31.5	31.0	-0.66	1.8	0.6	31.4	-0.59	1.8	0.6	12	LU
JE9FYE	31.4	32.0	32.2	31.6	31.8	-0.28	1.3	0.4	32.1	-0.21	1.6	1.3	12	LZ
JZTF4A	34.5 L	35.4 L	33.9 L	34.8 L	34.6	1.15	0.0	0.7	35.0	1.29	0.0	0.7	12	LA
K8PCRC	36.9 *	39.4 X	36.1 *	36.4	37.2	2.43 *	1.4	1.5 H	36.9	2.23 *	1.3	1.1	12	LY
L6C7K2	30.7	31.4	31.0	32.4	31.4	-0.49	1.5	0.8	32.3	-0.15	1.6	1.3	8	LZ
MY46YX	29.4	29.3	29.7	29.4	29.4	-1.46	1.1	0.2	29.2	-1.72	1.5	0.5	12	LU
NA2JGA	28.5	28.2 *	29.1	28.6	28.6	-1.88	1.6	0.4	28.3	-2.17 *	1.7	0.6	8	XX
NKFKRA	33.5	33.6	32.7 L	No Data	33.3	0.46	1.5	0.5	33.8	0.66	1.7	0.9	11	LU

Containerboard Interlaboratory Testing Program
Analysis 224
STFI, 69 lb Linerboard - 69C1
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
QDU4EP	35.7 L	34.3 L	60.0 XL	35.9 L	41.5	4.58 X	0.2	12.4 H	41.5	4.61 X	0.2	12.4 H	4	XX
R78XT3	29.6	29.3	28.7	29.1	29.2	-1.60	2.0	0.4	29.5	-1.60	1.8	0.5	12	LU
TTXGLX	32.3	31.5	31.3	31.5	31.6	-0.37	1.5	0.4	31.6	-0.46	1.5	0.4	12	LU
UQ2LCU	No Data	30.5	30.5	29.8	30.3	-1.04	1.7	0.4	31.3	-0.65	1.6	0.8	11	LW
VAEK3A	31.2	32.1	31.6	No Data	31.6	-0.38	1.5	0.5	31.5	-0.55	1.5	0.6	11	LW
VEACB7	32.8 L	32.7 L	31.9 L	30.8 L	32.1	-0.14	0.5	0.9	33.1	0.29	1.1	1.3	12	LA
Y4URFZ	30.6	31.0	30.3	30.6	30.6	-0.86	1.4	0.3	30.8	-0.90	1.6	0.5	12	LZ
ZPV6PX	36.1	33.8	38.1 X	35.5	35.9	1.76	2.5	1.8 H	36.0	1.76	2.6	1.3	12	LZ

Consensus (All Labs) Results

Wk Mean	32.36	32.17	32.26	32.45	**Month Mean**	32.35	**Grand Mean**	32.54
Avg SDr	1.61	1.48	1.48	1.49	**Avg SDr**	1.53	**Avg SDr**	1.55
SD btwn Labs	2.09	1.83	1.90	2.16	**SD btwn Labs**	1.99	**SD btwn Labs**	1.93
Labs Incld	41	42	40	41	**SD btwn Wks**	0.73	**SD btwn Wks**	1.52
Labs Excld	0	1	2	0	**Labs Incld**	42	**Labs Incld**	42
Labs not rcvd	2	0	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 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

	Monthly Results				Cumulative Results				
WebCode	**Mean**	**CPV**	**SDr**		**Mean**	**CPV**	**SDr**	**Months**	**Inst**
4B4EHR	163.3	1.87	19.4		167.2	1.63	22.9	4	EV
642PER	99.7	-1.63	14.6		100.5	-1.48	13.0	3	LA
767LEM	141.6	0.68	14.6		140.8	0.40	19.6	4	LA
79B6LV	144.8	0.86	10.6		147.3	0.70	11.7	4	EV
9KCHUR	131.9	0.14	12.9		141.1	0.41	10.9	4	EV
9Y94QL	132.7	0.19	15.3		184.4	2.43*	88.5	4	EV
AD6HQE	102.7	-1.46	11.2		112.0	-0.95	8.4	4	EV
DBPJKM	115.9	-0.74	14.1		118.4	-0.65	13.3	4	LA
DN2FBK	103.4	-1.43	10.6		100.5	-1.48	9.4	4	EV
DWR8CJ	114.9	-0.79	8.1		121.5	-0.51	6.8	4	EV
GVJFUD	138.3	0.49	13.9		133.9	0.07	10.5	3	XX
HY3WMH	135.3	0.33	11.9		139.1	0.32	12.7	4	EV
JZTF4A	131.2	0.10	14.0		127.8	-0.21	12.4	4	LA
K8PCRC	108.4	-1.15	8.3		103.7	-1.33	6.6	4	EV
L6C7K2	131.2	0.11	8.8		132.6	0.01	7.9	3	LA
R78XT3	149.1	1.09	16.4		145.9	0.64	13.7	4	EV
VEACB7	153.3	1.32	23.5		139.1	0.32	23.0	4	LA
VTBV37	119.2	-0.56	12.6		122.8	-0.44	11.2	4	EV
ZPV6PX	139.6	0.57	17.0		135.2	0.13	15.4	4	XX

Consensus (All Labs) Results

Month Mean	129.29		**Grand Mean**	132.31
Avg SDr	14.07		**Avg SDr**	24.24
SD btwn Labs	18.17		**SD btwn Labs**	21.44
Labs Incld	19		**Labs Incld**	19

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
4B4EHR	198.0	1.24	37.7	200.0	1.54	31.1	4	HY
642PER	151.8	-0.71	8.8	158.5	-0.53	9.1	3	TM
78GJUP	39.5	-5.46 X	1.0	41.2	-6.40 X	0.8	3	XX
9Y94QL	137.8	-1.30	21.2	148.1	-1.06	14.3	4	TM
DWR8CJ	184.8	0.69	4.1	160.7	-0.42	3.9	3	HY
GVJFUD	202.0	1.41	9.4	195.5	1.32	9.9	4	HY
HY3WMH	152.6	-0.68	8.8	154.5	-0.73	6.2	4	TM
LD7E48	137.0	-1.34	11.5	151.4	-0.89	8.1	4	TM
MY46YX	181.6	0.55	13.2	183.5	0.71	14.3	4	XX
NA2JGA	150.5	-0.77	27.8	165.0	-0.21	30.3	4	SC
NKFKRA	133.4	-1.49	12.7	132.8	-1.82	13.0	4	HZ
TTXGLX	168.5	0.00	6.1	169.0	-0.01	6.0	4	HY
TXALG7	181.7	0.55	7.2	170.2	0.05	6.2	4	SC
UQ2LCU	184.4	0.67	12.7	178.3	0.46	8.3	4	TM
XKM3PX	166.0	-0.11	3.2	167.0	-0.11	5.8	4	SC
ZPV6PX	199.0	1.29	8.2	203.3	1.70	17.3	4	SC

Consensus (All Labs) Results

Month Mean	168.60		**Grand Mean**	169.17
Avg SDr	15.70		**Avg SDr**	14.68
SD btwn Labs	23.63		**SD btwn Labs**	20.01
Labs Incld	15		**Labs Incld**	15

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
4B4EHR	27.8	0.27	2.9	27.9	0.42	2.9	4	ZZ
642PER	27.6	0.18	3.6	28.0	0.48	2.7	3	ZZ
6EJ9XN	27.8	0.28	2.3	27.4	0.13	1.6	4	ZZ
78GJUP	31.0	1.76	2.1	31.1	2.09*	1.5	4	ZZ
79B6LV	25.6	-0.73	1.6	26.1	-0.51	1.5	4	ZZ
9Y94QL	24.2	-1.39	1.3	24.6	-1.32	2.1	4	ZZ
BG6BXH	28.2	0.46	2.2	25.8	-0.69	2.6	4	ZZ
DN2FBK	27.8	0.28	1.3	28.2	0.59	1.0	4	ZZ
EKRWGG	29.2	0.93	1.5	29.3	1.16	1.4	4	ZZ
GVJFUD	25.4	-0.83	1.5	25.7	-0.74	1.9	4	ZZ
HY3WMH	30.4	1.48	1.1	28.4	0.69	1.1	4	ZZ
R78XT3	24.8	-1.11	0.8	26.5	-0.32	1.8	4	ZZ
TTXGLX	23.6	-1.67	1.5	23.2	-2.09*	1.0	4	ZZ
UQ2LCU	25.4	-0.83	4.4	27.5	0.23	4.3	4	ZZ
XVQ463	28.6	0.65	2.8	27.9	0.44	2.9	4	ZZ
ZPV6PX	27.8	0.28	1.9	26.1	-0.56	2.4	4	ZZ

Consensus (All Labs) Results

Month Mean	27.20		Grand Mean	27.10
Avg SDr	2.26		Avg SDr	2.21
SD btwn Labs	2.16		SD btwn Labs	1.89
Labs Incld	16		Labs Incld	16

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
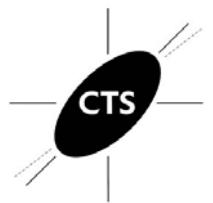
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2ZNRCK	49.8	-0.37	1.0	49.9	-0.98	0.9	4	LP
3JJMK3	52.6	0.64	2.6	52.0	0.31	4.1	3	XX
4B4EHR	56.4	2.00 *	0.8	55.3	2.31 *	2.0	4	LA
642PER	52.1	0.45	1.3	52.3	0.50	2.1	3	LA
6EJ9XN	48.9	-0.69	2.1	48.8	-1.66	1.9	4	LP
78GJUP	54.2	1.21	1.9	53.4	1.18	1.5	4	LA
9Y94QL	51.0	0.06	2.0	48.6	-1.77	2.9	4	XX
9Z4PHQ	52.1	0.46	1.9	52.5	0.62	1.8	4	XX
GVJFUD	50.8	0.00	1.3	52.2	0.42	1.8	4	XX
JZTF4A	52.8	0.70	3.1	52.7	0.73	2.7	4	TL
PFKBW2	49.1	-0.62	1.9	50.5	-0.62	2.7	4	GG
QDU4EP	45.0	-2.11 *	2.1	45.7	-3.54 X	2.5	2	XX
R78XT3	50.5	-0.14	1.6	51.2	-0.18	1.9	4	LP
TTXGLX	52.7	0.66	4.4	51.9	0.26	3.2	4	TP
TXALG7	51.2	0.13	1.0	51.4	-0.06	1.6	4	LP
UQ2LCU	51.5	0.26	3.3	51.1	-0.27	2.7	4	HG
VEACB7	50.0	-0.30	1.4	50.6	-0.56	1.6	4	LA
XVQ463	44.5	-2.27 *	1.7	43.4	-4.90 X	2.0	4	GA
ZPV6PX	50.7	-0.05	2.4	51.1	-0.25	2.2	4	HG

Consensus (All Labs) Results

Month Mean	50.83		Grand Mean	51.49
Avg SDr	2.17		Avg SDr	2.35
SD btwn Labs	2.78		SD btwn Labs	1.65
Labs Incld	19		Labs Incld	17

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

(TP) - Technidyne Profile/ plus Roughness & Porosity

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

Report #538

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

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
22YWMN	63.2	63.2	63.5	62.5	63.1	0.48	3.6	0.4	62.1	0.07	3.0	1.4	12	LC
2YTCYN	63.1	63.3 L	63.2 L	62.9 L	63.1	0.50	1.5	0.2 L	62.3	0.15	1.5	0.8	16	TD
2ZNRCK	60.9	60.0	60.6	60.0 L	60.4	-0.55	1.7	0.5	60.5	-0.77	1.5	0.4	16	LD
3T6286	64.3	60.9	63.7	59.7	62.2	0.12	3.3	2.2	62.0	-0.03	3.1	1.8	16	LC
6EJ9XN	65.6	60.7	66.2	64.6	64.3	0.92	3.1	2.5	64.7	1.36	3.0	1.8	15	LC
6MURVT	64.5	63.5	62.6	63.6	63.5	0.64	2.8	0.8	64.7	1.38	3.0	1.2	16	EM
767LEM	No Data	60.3	No Data	60.8	60.6	-0.48	2.4	0.4	58.5	-1.80	3.1	2.6	14	MB
7CP6F2	62.1	61.8	61.4	61.8	61.8	-0.03	3.1	0.3 L	62.5	0.25	3.0	1.8	16	XX
8DXJGF	61.1	61.9	61.7	61.9	61.7	-0.07	2.9	0.4	61.1	-0.45	2.8	0.6	16	TH
9E6DHX	55.8 *	56.3	56.7 *	58.6	56.8	-1.89	3.0	1.2	59.6	-1.20	3.2	2.7	16	MB
9WN89M	68.9 *	65.9	66.4	64.0	66.3	1.69	2.8	2.0	63.7	0.88	2.2	2.6	15	LC
9Z4PHQ	63.2	63.4	61.6	62.5	62.7	0.32	2.3	0.8	62.0	0.00	2.7	1.1	16	LD
AXEDK7	64.3	63.3	63.6	65.1	64.1	0.85	3.2	0.8	61.8	-0.12	2.9	2.7	12	LD
BA4WCG	61.9	62.2	62.7	62.2	62.3	0.16	3.1	0.3	63.2	0.63	3.1	1.6	12	LZ
BEYJCW	60.3	59.5 L	61.9	62.5	61.0	-0.31	2.1	1.4	61.0	-0.53	1.9	0.9	16	LC
BJ82AP	62.2	62.5	63.2	62.0	62.5	0.24	2.3	0.5	62.5	0.23	2.4	0.4	16	LC
DGEWKP	68.1 *	71.4 *	71.2 X	69.3 X	70.0	3.10 X	3.6	1.6	65.8	1.93	4.1	3.1 H	16	LC
DN2FBK	60.1	59.4 L	59.2 L	59.4	59.5	-0.88	1.3	0.4	59.6	-1.24	1.5	0.4	16	TH
DQJYTT	60.2	60.8	61.4	63.8	61.6	-0.10	2.6	1.6	59.7	-1.20	2.5	2.6	16	LD
E63RB9	59.6	60.6	63.6	60.5	61.1	-0.28	4.2	1.8	59.9	-1.09	3.6	1.3	16	TG
FLHHMD	59.8	62.1 L	58.3 H	62.1	60.6	-0.48	3.6	1.9	61.2	-0.43	3.2	1.7	12	XX
G6DB9B	60.0	62.5	62.0	62.1	61.7	-0.07	1.8	1.1	61.7	-0.13	1.7	1.1	16	LC
GVJFUD	66.7	67.6	66.2	67.6 *	67.0	1.96	3.9	0.7	66.1	2.08 *	4.5	2.1	12	LC
HJMFWF	62.7	62.8	62.5	62.6	62.6	0.31	3.3	0.1 L	63.5	0.78	3.0	1.1	16	XX
HY3WMH	60.7	60.6	60.9	63.4	61.4	-0.16	2.9	1.3	61.5	-0.24	3.0	1.0	16	LD
JUMLAE	61.3	63.5	62.6	62.6	62.5	0.25	2.8	0.9	62.1	0.02	2.7	1.0	16	LD
KUGVCU	59.4	59.2	60.5	60.0	59.8	-0.78	2.5	0.6	59.6	-1.23	2.6	1.3	12	TD
L6C7K2	60.4	54.1 *	54.2 X	57.6	56.6	-1.99	3.8	3.1	59.4	-1.34	3.4	2.9	12	LD
LY9FYB	62.5	62.6	63.1	61.8	62.5	0.25	1.8	0.5	62.0	0.00	2.3	0.7	15	LD
MTZEE8	60.8	60.5	59.7	61.1	60.5	-0.50	2.1	0.6	60.9	-0.54	2.7	1.1	16	EM
MY46YX	58.9	64.1	62.8	59.0	61.2	-0.24	3.1	2.7	59.8	-1.10	3.3	2.4	16	LC
NA2JGA	59.4	58.8	58.7	56.2 *	58.3	-1.35	3.5	1.4	59.6	-1.20	3.4	1.7	16	LX
NKFKRA	63.8	67.8 H	63.8	No Data	65.1	1.25	3.7	2.3	65.6	1.83	4.2	1.8	5	LC
PYHBA8	59.9	63.3	61.4	60.7	61.3	-0.20	2.7	1.4	61.2	-0.41	2.8	1.2	16	LC
QDU4EP	48.4 X	52.7 *	59.8 H	59.1	55.0	-2.60 *	6.5	5.4 H	54.0	-4.07 X	5.5	4.4 H	12	XX
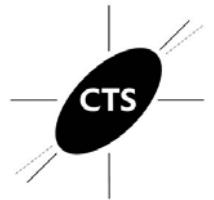
Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T809

	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**
QZN7CB	61.5	61.9	60.6	61.5 L	61.3	-0.18	2.2	0.6	63.0	0.50	2.9	1.6	16	LD
R78XT3	64.5 H	61.9	61.8	64.2	63.1	0.48	3.9	1.4	63.5	0.76	3.8	2.4	15	LZ
RZ7GQA	65.7	62.5	62.1	64.1	63.6	0.67	3.1	1.6	61.6	-0.23	3.4	2.8	16	LC
TTXGLX	61.7	61.1 H	60.7	62.6	61.5	-0.12	4.3	0.8	61.1	-0.47	3.7	1.2	16	LC
VAEK3A	66.4	65.8 L	65.1	No Data	65.7	1.48	1.9	0.7	66.5	2.27 *	2.2	1.2	14	LC
XKM3PX	56.8	56.5	56.4 *	58.9	57.2	-1.78	3.0	1.2	61.1	-0.46	3.6	3.8 H	16	LD
XLHMG3	63.1	62.4	62.8	62.0	62.6	0.28	2.6	0.5	62.5	0.27	2.4	0.4	16	LD
Y4URFZ	67.0	69.4 *	No Data	66.5 *	67.6	2.20 *	4.5	1.6	63.7	0.87	4.4	3.9 H	15	LZ

Consensus (All Labs) Results

Wk Mean	62.25	61.96	61.92	61.84	**Month Mean**	61.83		**Grand Mean**	62.01	
Avg SDr	2.89	3.34	3.35	2.84	**Avg SDr**	3.12		**Avg SDr**	3.02	
SD btwn Labs	2.88	3.52	2.27	2.31	**SD btwn Labs**	2.63		**SD btwn Labs**	1.96	
Labs Incld	41	43	39	40	**SD btwn Wks**	1.56		**SD btwn Wks**	1.89	
Labs Excld	1	0	2	1	**Labs Incld**	42		**Labs Incld**	42	
Labs not rcvd	1	0	2	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	(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
22YWMN	79.5	80.1	77.8	No Data	79.1	1.89	2.4	1.1	75.2	1.01	3.2	5.1	11	LC
2YTCYN	73.0	72.5	73.3	74.2	73.2	-0.39	1.7	0.7	72.9	-0.46	1.8	1.0	16	TD
3JJMK3	72.1 L	72.9	72.6 L	73.2	72.7	-0.60	1.3	0.5 L	72.9	-0.45	1.4	0.6	12	XX
6EJ9XN	73.6	73.9	77.0 H	72.7	74.3	0.02	3.9	1.9	74.3	0.48	3.3	2.1	15	XX
BEYJCW	71.1	72.6	73.3	72.1	72.3	-0.76	2.0	0.9	72.1	-0.92	1.9	0.8	16	LC
FLHHMD	68.0 H	78.1	66.6 H	77.7	72.6	-0.64	4.9	6.1 H	72.9	-0.46	3.8	5.6 H	12	TU
LY9FYB	72.7	72.9	72.7	72.1	72.6	-0.64	2.2	0.4 L	72.9	-0.45	2.2	0.4 L	15	LD
RZ7GQA	68.6	72.8	69.9	71.8	70.8	-1.34	2.7	1.9	70.8	-1.81	3.1	4.6	16	LZ
TTXGLX	76.8	77.9	77.5	77.0	77.3	1.20	2.4	0.5 L	74.7	0.74	2.6	4.0	16	XX
VAEK3A	76.5	81.9	73.1	No Data	77.2	1.13	2.1	4.4	76.2	1.68	2.3	2.3	14	LC
Y4URFZ	70.8 H	78.8	No Data	74.1	74.6	0.13	3.2	4.0	74.6	0.64	4.4	4.3	15	LZ

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4						
Wk Mean	72.97	75.84	73.38	73.87	**Month Mean**	74.24		**Grand Mean**	73.58	
Avg SDr	2.84	2.31	3.45	2.49	**Avg SDr**	2.79		**Avg SDr**	2.87	
SD btwn Labs	3.51	3.54	3.49	2.17	**SD btwn Labs**	2.58		**SD btwn Labs**	1.56	
Labs Incld	11	11	10	9	**SD btwn Wks**	2.76		**SD btwn Wks**	3.36	
Labs Excld	0	0	0	0	**Labs Incld**	11		**Labs Incld**	11	
Labs not rcvd	0	0	1	2						

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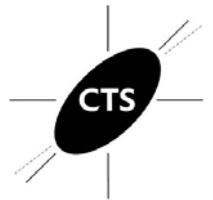
Containerboard Interlaboratory Testing Program
Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T822

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
2XMRCN	41.4	41.0	41.3	40.7	41.1	-0.98	1.8	0.3	41.2	-1.07	1.9	1.1	16	TH
6EJ9XN	39.4	37.8	41.9	45.6	41.2	-0.95	2.1	3.4 H	41.7	-0.84	2.2	2.5	15	LC
7YJT69	42.2	43.3	45.9	42.4	43.4	-0.04	2.3	1.7	43.2	-0.18	2.5	1.9	16	LZ
9Z4PHQ	42.6	43.1 H	43.3	42.3 H	42.8	-0.29	4.2	0.4	42.6	-0.42	3.8	0.8	16	LD
AWJUGK	42.4	42.8 L	43.6 L	42.8 L	42.9	-0.25	1.1	0.5	42.8	-0.35	1.2	0.9	16	WK
AXEDK7	47.7	46.0	46.2	48.5	47.1	1.43	1.7	1.2	46.7	1.38	2.0	1.1	12	LD
DQJYTT	46.0	45.3	45.9	46.1	45.8	0.92	3.3	0.4	46.2	1.16	3.3	1.2	16	LZ
G6DB9B	48.5	48.3	48.1	47.7	48.1	1.85	1.3	0.3	48.0	1.99	1.2	0.5	16	LC
HJMFWF	43.2	43.4	42.4 L	41.4	42.6	-0.37	2.5	0.9	44.4	0.35	2.6	1.7	16	XX
JUMLAE	45.0	45.8	44.7	45.9	45.4	0.73	2.1	0.6	45.0	0.65	2.3	0.9	16	LD
L6C7K2	40.2	42.2	43.0	44.8	42.6	-0.39	1.9	1.9	43.1	-0.23	2.5	1.6	12	LD
MTZEE8	40.7	39.4	39.3 L	40.4	40.0	-1.44	1.7	0.7	40.7	-1.26	1.9	0.9	16	LC
NKFKRA	41.8	41.9	41.9	No Data	41.9	-0.67	2.6	0.1 L	41.8	-0.80	2.8	0.8	15	LD
PYHBA8	39.5	40.4	41.4	41.7	40.8	-1.12	2.5	1.0	40.5	-1.38	2.6	1.3	16	LC
QDU4EP	46.7	46.0	48.6 H	47.2	47.1	1.44	4.2	1.1	45.6	0.92	4.0	5.0 H	12	XX
TTXGLX	44.3 H	43.2	43.3	44.8	43.9	0.14	3.4	0.8	43.7	0.07	3.2	1.3	16	LC

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Monthly			Cumulative
Wk Mean	43.22	43.12	43.80	44.17	**Month Mean**	43.54		**Grand Mean**	43.56
Avg SDr	2.59	2.51	2.76	2.46	**Avg SDr**	2.59		**Avg SDr**	2.61
SD btwn Labs	2.86	2.73	2.57	2.66	**SD btwn Labs**	2.49		**SD btwn Labs**	2.24
Labs Incld	16	16	16	15	**SD btwn Wks**	1.25		**SD btwn Wks**	1.78
Labs Excld	0	0	0	0	**Labs Incld**	16		**Labs Incld**	16
Labs not rcvd	0	0	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)

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

(WK) - Zwick Z005 Crush Tester

(XX) - Instrument make/model not specified by lab
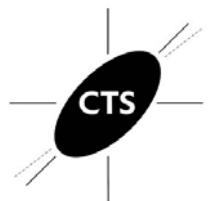
Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM73
TAPPI Provisional Test Method T826

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**					
2PNFZR	14.7	14.9 L	15.3 L	14.8	14.9	0.58	0.6	0.3	14.3	-0.71	1.1	0.7 H	16	LB
767LEM	No Data	14.0 L	No Data	14.4 L	14.2	-1.26	0.0	0.2	14.2	-0.93	0.0	0.2	2	XX
7YJT69	15.6	15.6	15.1	14.5	15.2	1.23	1.2	0.5	15.0	0.55	1.2	0.8 H	16	LA
8DXJGF	14.6	14.4	14.6	14.4	14.5	-0.51	1.0	0.1	14.4	-0.47	0.8	0.3	16	TT
9E6DHX	14.6 L	14.7 L	15.5 L	15.2 L	15.0	0.75	0.2	0.4	15.4	1.39	0.2	0.5	16	BK
9WN89M	14.9	15.9	14.2	15.2	15.0	0.84	1.3	0.7	15.2	0.98	1.2	0.6	16	LW
AXEDK7	14.5	13.9	14.7	14.9	14.5	-0.58	1.3	0.5	14.7	0.14	1.2	0.4	12	LA
BA4WCG	14.3	15.1	14.9	14.8	14.8	0.18	1.1	0.4	14.9	0.54	1.2	0.3	12	LW
BJ82AP	14.8	14.6	14.7	15.0	14.8	0.15	1.1	0.2	14.8	0.25	1.1	0.2	16	LB
DN2FBK	14.8	14.8	14.8	15.4	15.0	0.62	1.2	0.3	14.8	0.31	1.3	0.3	16	LW
G6DB9B	15.1	14.9	15.2	14.8	15.0	0.74	0.7	0.2	15.0	0.62	0.7	0.5	16	XX
L6C7K2	14.6	14.3	14.5	15.0	14.6	-0.25	1.3	0.3	15.1	0.89	1.1	0.6	12	LZ
LY9FYB	No Data	No Data	14.2	14.4	14.3	-1.17	0.8	0.1	14.4	-0.62	0.8	0.4	10	LA
MTZEE8	13.1 X	12.9 *	12.9 *	13.3 X	13.1	-4.23 X	1.0	0.2	13.6	-2.14 *	1.1	0.5	16	LB
QDU4EP	26.9 XL	15.3 L	25.8 XL	16.0 *L	21.0	16.14 X	0.1	6.2 H	17.9	6.57 X	0.1	4.9 H	12	XX
R78XT3	13.8 *	14.3	12.9 *	14.0	13.8	-2.46 *	1.2	0.6	13.7	-1.93	1.1	0.3	16	LU
TTXGLX	15.0	15.2	15.2	15.1	15.1	1.10	1.0	0.1	15.1	0.93	1.1	0.2	16	LU
XLHMG3	15.1	14.7	14.4	14.7	14.7	0.02	1.1	0.3	14.8	0.19	1.1	0.2	16	LB

Consensus (All Labs) Results

Wk Mean	14.74	14.69	14.57	14.85	**Month Mean**	14.71	**Grand Mean**	14.68	
Avg SDr	1.02	1.09	1.10	0.92	**Avg SDr**	1.03	**Avg SDr**	1.03	
SD btwn Labs	0.42	0.70	0.75	0.46	**SD btwn Labs**	0.39	**SD btwn Labs**	0.49	
Labs Incld	14	17	16	17	**SD btwn Wks**	0.37	**SD btwn Wks**	0.45	
Labs Excld	2	0	1	1	**Labs Incld**	16	**Labs Incld**	17	
Labs not rcvd	2	1	1	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