Collaborative Testing Services, Inc.
Containerboard Interlaboratory Testing Program

Participant Summary Report #537 (F) - June 2014

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
207	36Z2	Mullen Burst of Linerboard, 36 lb Linerboard
215	42B4	Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard
217	36Z2	Ring Crush of Linerboard, Rigid Platen Type, 36 lb Linerboard
223	42B4	STFI of Linerboard, 42 lb Linerboard
225	36Z2	STFI of Linerboard, 36 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

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
4YV2FB	759.2	-0.10	39.5		785.5	-0.19	40.0	3	ES
7MQVE9	719.6	-0.77	45.4		763.0	-0.89	37.1	4	ER
8RGKCR	812.0	0.79	25.6		826.0	1.07	36.7	4	LH
9GUV8Q	798.1	0.56	52.4		823.1	0.97	40.6	4	LL
BK9ANW	718.4	-0.79	23.7		783.5	-0.25	42.1	4	LG
CUTQZ4	793.5	0.48	63.0		773.6	-0.56	53.9	4	ER
F9GCNT	735.6	-0.50	10.2		751.1	-1.26	30.0	4	TB
GJBZ3T	817.4	0.89	71.2		797.2	0.17	58.8	4	LG
H8YUP6	870.4	1.78	39.6		859.3	2.10*	28.9	4	LM
LLLJ6K	775.7	0.18	20.7		822.5	0.96	28.8	4	LN
MCTL2H	822.7	0.97	18.2		802.7	0.34	37.3	4	ER
P3VRHG	704.4	-1.03	58.0		725.6	-2.05*	43.4	4	LG
RFBDW8	751.0	-0.24	15.1		787.9	-0.12	22.2	4	TE
TAKKXC	627.4	-2.34 *	67.0		819.7	0.87	60.9	4	LH
VVE9G4	801.8	0.62	58.5		789.9	-0.05	64.2	4	LS
VZCNC7	798.3	0.56	103.1		780.5	-0.35	86.5	4	LS
ZTY4FB	703.4	-1.05	37.6		767.3	-0.76	47.8	4	LL

Consensus (All Labs) Results

Month Mean	765.22		Grand Mean	791.66
Avg SDr	50.07		Avg SDr	47.30
SD btwn Labs	58.95		SD btwn Labs	32.24
Labs Incld	17		Labs Incld	17

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	790.23	36.27	25.01	6
Clip sealing	753.42	73.26	11.80	9
Tape sealing	743.30	10.89	21.92	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	(ES) - Emerson 8510
(LG) - TLS / L.A.B. Validator Series	(LH) - L.A.B. Compression Tester Model #10610
(LL) - Lansmont 76-5K	(LM) - Lansmont 122-15k
(LN) - Lansmont 152-50k	(LS) - Lansmont Squeezer
(TB) - TMI Monitor/Compression Tester, Model 17-70	(TE) - Testometric M500 - 25 KN

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

WebCode	Monthly Results				Cumulative Results				
	Mean	CPV	SDr		Mean	CPV	SDr	Months	Inst
2TTHWZ	36.2	-1.02	1.8		37.9	-0.32	2.3	4	XX
8RGKCR	37.8	-0.20	0.7		35.9	-1.60	1.1	4	TC
FG8XUQ	35.1	-1.58	1.4		36.7	-1.13	1.3	4	LC
HBUTVN	39.2	0.50	1.1		38.8	0.29	0.9	4	WK
HUR4PH	37.3	-0.48	3.8		38.5	0.09	3.4	4	TD
LLLJ6K	40.8	1.32	1.5		40.5	1.38	1.8	4	EN
MKLTKN	40.2	1.01	1.2		39.9	1.00	1.0	4	TB
VZCNC7	39.1	0.44	1.7		38.8	0.28	1.5	4	LC

Consensus (All Labs) Results

Month Mean	38.21		**Grand Mean**	38.39
Avg SDr	1.86		**Avg SDr**	1.82
SD btwn Labs	1.99		**SD btwn Labs**	1.53
Labs Incld	8		**Labs Incld**	8

Instrument Code List as Reported by the Labs

(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

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

(WK) - Zwick Z005 Crush Tester

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

Report #537

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT7
TAPPI T839
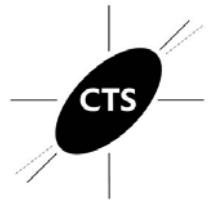
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4YV2FB	43.2	0.72	0.9	44.4	1.68	1.4	4	LD
7EEUVT	42.3	0.26	2.3	42.3	0.20	2.3	1	LC
7MQVE9	42.6	0.41	1.6	43.5	1.02	1.4	4	LD
8RGKCR	42.8	0.51	0.8	40.6	-1.03	1.0	4	TC
9GUV8Q	41.3	-0.30	1.0	41.7	-0.30	1.1	4	BU
BK9ANW	41.0	-0.47	1.8	41.0	-0.78	2.2	4	EM
BZXHKU	43.9	1.15	1.0	45.4	2.40*	1.2	4	CT
CEDTV3	43.1	0.67	0.9	43.7	1.19	1.1	4	LD
CLFYA6	44.5	1.46	1.5	43.7	1.17	2.0	4	XX
CUTQZ4	44.0	1.21	1.8	42.4	0.21	1.7	4	EN
EPPYLM	42.7	0.47	1.4	42.0	-0.03	1.3	4	EX
F9GCNT	42.6	0.39	0.6	41.4	-0.51	0.7	4	LC
FG8XUQ	40.6	-0.74	0.6	41.5	-0.41	1.2	4	LC
GXXBRJ	42.7	0.44	0.8	42.8	0.55	1.1	4	TG
H8YUP6	41.8	-0.03	1.8	42.4	0.23	1.4	4	EM
JCM47G	41.8	-0.04	0.7	43.6	1.14	1.0	4	LC
JLQA6P	41.9	-0.01	1.5	41.8	-0.20	1.2	4	TM
JTUZPF	42.7	0.47	0.7	42.2	0.08	1.0	4	TB
JU7TM4	44.8	1.65	1.4	43.2	0.84	1.5	4	LD
LLLJ6K	42.7	0.49	1.2	43.0	0.65	1.4	4	EN
MCTL2H	40.0	-1.05	1.2	40.0	-1.53	0.9	3	EM
MKLTKN	42.0	0.07	1.2	41.2	-0.65	1.5	4	TG
NA3VUB	42.2	0.20	1.4	41.8	-0.17	1.6	4	LC
P3VRHG	39.9	-1.10	2.0	39.2	-2.11*	2.1	4	TB
PDHQB8	37.4	-2.55 *	1.3	39.6	-1.79	1.5	4	TK
QDX84F	41.7	-0.10	1.2	41.9	-0.09	1.1	4	TC
R2DK8J	87.0	25.55 X	4.8	87.0	32.63 X	4.8	1	LC
TAKKXC	38.5	-1.89	1.8	41.2	-0.60	1.6	4	EM
VZCNC7	42.5	0.37	1.5	42.9	0.63	1.6	4	LC
YDTK7Z	36.0	-3.32 X	0.8	36.0	-4.40 X	0.8	1	LC
YMTBM2	37.5	-2.50 *	2.2	40.8	-0.91	1.9	4	LD
ZDJAG8	41.3	-0.33	1.2	41.3	-0.55	1.2	4	TL
ZTY4FB	42.2	0.16	2.6	41.5	-0.37	2.4	4	LC

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

CTS

Consensus (All Labs) Results

Month Mean	41.87		**Grand Mean**	42.06
Avg SDr	1.44		**Avg SDr**	1.50
SD btwn Labs	1.77		**SD btwn Labs**	1.38
Labs Incld	31		**Labs Incld**	31

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester	(CT) - Con-Ten
(EM) - Emerson 1200 Series	(EN) - Emerson 2200
(EX) - Emerson (model not specified)	(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	(TG) - TMI Digital Crush Tester, 17-76
(TK) - TLS Compression Tester, Model 5184	(TL) - Tech-Lab Systems Compression
(TM) - TMI/Hinde & Dausch	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 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**
2BC6P4	106.9	106.1	102.1	102.6	104.4	-0.02	8.8	2.4	105.9	0.43	11.7	4.6	8	LC
2F8YKK	109.8	105.1	110.8	110.1	109.0	1.14	8.4	2.6	109.3	1.41	8.5	3.0	8	TB
3E9D7J	96.7	104.7	107.0	105.3	103.4	-0.27	10.3	4.6	104.0	-0.11	10.8	3.4	8	AX
4388RB	106.5	111.4	113.5*	111.5	110.7	1.59	12.3	3.0	110.9	1.87	11.8	2.7	8	TB
4CETW6	100.2	87.3 X	90.8 X	99.6	94.5	-2.54*	7.8	6.4 H	97.6	-1.94	9.3	5.9 H	8	XX
4W7VXZ	105.1	102.6	108.7	104.4	105.2	0.18	9.7	2.6	105.2	0.23	9.7	2.6	4	LC
4YV2FB	106.8	99.4	108.5	108.2	105.7	0.32	11.4	4.3	105.2	0.23	10.9	3.4	8	LA
7D3ZD8	117.2*	110.7	106.1	104.2	109.6	1.29	8.7	5.8	107.1	0.77	8.6	4.7	8	LA
7MQVE9	101.2	102.7	99.5	99.1	100.6	-0.98	10.5	1.7	101.3	-0.89	10.7	2.4	8	AH
8CHM42	99.3	109.4	96.3*	106.4 L	102.9	-0.41	7.2	6.1	102.9	-0.44	7.2	6.1 H	4	LC
8GHR3E	101.9	108.5 H	99.8	105.0	103.8	-0.17	11.2	3.8	103.9	-0.13	10.2	2.9	8	TB
8LBT7E	105.1	104.7	105.0	104.3	104.8	0.08	5.1	0.4 L	105.2	0.23	7.0	0.9	8	AH
8RGKCR	107.0	104.3	102.8	100.0	103.5	-0.25	9.4	2.9	104.1	-0.09	10.2	2.4	8	AA
8TB9T2	97.8	97.6	100.8	101.9	99.5	-1.26	9.3	2.1	99.9	-1.29	10.7	2.6	8	LA
BPGLN3	109.6	109.6	106.1	110.2	108.9	1.12	9.0	1.9	106.6	0.62	8.9	8.7 H	8	LA
BZXHKU	97.7 H	104.3	97.7	102.3	100.5	-1.01	13.3	3.3	103.8	-0.18	13.4	6.1 H	8	XX
CDNLCQ	109.0	111.0	110.4	108.1	109.7	1.32	6.5	1.3	108.5	1.17	6.8	1.7	8	LA
CLFYA6	94.9	99.0	100.2	96.2	97.6	-1.75	10.3	2.5	95.8	-2.46*	9.6	2.6	8	LA
DKFGMU	103.5	103.0	103.7	107.1	104.3	-0.04	10.1	1.9	103.2	-0.35	9.7	1.8	8	LA
DM7M77	105.3	100.4	102.9	98.5	101.8	-0.69	9.2	3.0	102.2	-0.64	10.1	2.4	8	LA
E6KGBL	104.6	103.6	105.7 L	95.6	102.4	-0.53	5.9	4.6	103.6	-0.22	6.9	3.8	8	LC
EAVEWM	130.4 X	118.8 XH	112.9	107.4	117.4	3.28 X	11.2	9.9 H	118.9	4.15 X	9.9	7.8 H	8	AH
EE9CB2	105.3	102.8	105.9	107.1	105.3	0.20	8.7	1.8	106.5	0.61	11.3	3.1	8	LC
FTZDJR	106.5	103.6	103.7	105.2	104.8	0.07	6.0	1.4	105.0	0.18	7.1	1.3	8	TB
FX2FR2	103.3	104.6	106.3	105.8	105.0	0.13	5.9	1.4	105.0	0.17	7.3	1.1	8	LC
FZ3MPK	99.7	101.3	101.7	98.1	100.2	-1.09	5.6	1.6	100.2	-1.20	5.6	1.6	4	RE
GJBZ3T	103.4	106.3	104.0	105.8	104.9	0.10	9.0	1.4	105.4	0.30	9.6	1.3	8	AH
H8YUP6	103.6	102.9	99.8	96.8 L	100.8	-0.94	8.8	3.1	102.3	-0.59	7.6	3.3	8	AH
HD4WQY	101.2	97.4	99.3	99.2	99.3	-1.33	8.3	1.6	99.2	-1.49	7.9	1.4	8	LA
JU7TM4	107.7	106.9	108.6	107.5	107.6	0.81	7.2	0.7	106.7	0.66	6.8	1.7	8	TB
KMF3FY	110.6	104.8	109.1	105.8	107.6	0.79	9.7	2.7	107.5	0.90	10.8	2.9	8	LZ
KWNGFF	106.6 L	102.9	103.3 L	106.1	104.7	0.06	5.1	1.9	104.0	-0.12	5.2	1.5	8	AH
LEHRKU	103.7	99.1	103.6	108.1	103.6	-0.22	10.4	3.7	102.8	-0.47	10.9	2.9	8	AH
MUUP4K	99.0	106.1	103.6	103.1	103.0	-0.39	10.0	2.9	102.9	-0.44	9.1	2.8	8	LC
MVAPLP	109.6	116.9 X	114.9*	109.0	112.6	2.06*	9.9	3.9	112.6	2.34*	9.9	3.9	4	LA
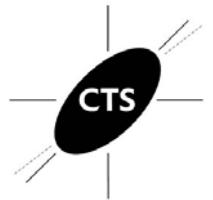
Report #537

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42B4
TAPPI Official Test Method T807

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
NXAF7A	100.8 L	100.2 L	101.1	100.3 L	100.6	-0.99	4.2	0.4 L	100.8	-1.02	4.0	0.8	8	XX
P3VRHG	102.9	98.5	104.2	94.1 *	99.9	-1.16	8.2	4.6	99.2	-1.50	9.7	3.6	7	LA
QNTHD8	95.6	104.7	99.1	103.0	100.6	-0.99	9.7	4.1	100.9	-0.99	9.0	3.0	8	LJ
QW94KQ	101.6	102.3	105.1	105.2	103.5	-0.24	9.1	1.9	102.0	-0.68	9.1	3.7	7	LC
R2DK8J	109.0	111.1	107.4	98.5	106.5	0.51	10.3	5.5	106.5	0.60	10.3	5.5 H	4	LA
RFBDW8	No Data	No Data	99.7 L	100.3 L	100.0	-1.14	1.6	0.4 L	100.3	-1.17	2.3	0.4 L	4	AH
VDGQR9	108.5	111.1	108.7	109.1 L	109.4	1.24	4.9	1.2	108.9	1.30	5.0	1.8	7	XX
VJLLW3	113.3	105.5	104.1	104.0	106.7	0.57	10.2	4.4	105.8	0.40	9.7	3.5	8	LJ
VZCNC7	107.1	103.3	105.8	107.6	105.9	0.37	11.1	1.9	106.5	0.60	10.6	2.5	7	AH
XE7UJ8	105.5	104.3	106.8	102.7	104.8	0.09	11.3	1.7	105.6	0.33	10.5	1.6	8	LZ
XEHQNB	105.3	105.7	102.8	101.9	103.9	-0.14	11.9	1.9	104.0	-0.13	11.1	2.6	8	AH
XKQTAF	100.1	102.9	104.3	104.3	102.9	-0.40	8.0	2.0	104.1	-0.10	9.4	2.0	8	LC
XYRN88	118.3 *	110.9	114.0 *	111.6	113.7	2.35 *	10.0	3.3	115.8	3.26 X	8.2	4.3	8	LA
YMTBM2	106.6	105.8	105.8	100.4	104.7	0.04	10.1	2.9	105.4	0.30	9.1	2.3	8	AA
YR8NPA	103.4 L	102.3	105.5	102.1	103.3	-0.29	8.4	1.6	103.3	-0.30	8.4	1.6	4	LC
YVPAXM	103.6	102.9	101.1	104.1	102.9	-0.40	8.0	1.3	103.7	-0.21	9.4	1.7	8	LZ
Z3JD2J	112.5	105.9	107.4	112.2	109.5	1.27	8.7	3.3	108.8	1.25	8.8	3.1	8	LC
ZEDTQK	107.3	102.3	103.5	99.8	103.2	-0.32	11.6	3.1	102.9	-0.43	9.8	2.6	8	LA
ZRJ293	114.9	111.7	No Data	No Data	113.3	2.24 *	11.3	2.2	113.7	2.68 *	12.7	7.5 H	6	TB

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4		Month			Grand	
Wk Mean	105.04	104.57	104.82	103.90	Month Mean	104.48		Grand Mean	104.40	
Avg SDr	8.93	9.18	9.16	9.14	Avg SDr	9.10		Avg SDr	9.30	
SD btwn Labs	5.09	3.78	4.20	4.34	SD btwn Labs	3.93		SD btwn Labs	3.49	
Labs Incld	52	50	52	53	SD btwn Wks	3.06		SD btwn Wks	3.39	
Labs Excld	1	3	1	0	Labs Incld	53		Labs Incld	52	
Labs not rcvd	1	1	1	1						

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 207
Bursting Strength (Mullen), 36 lb Linerboard - 36Z2
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**				
2BC6P4	79.9	76.2	76.2	79.0	77.8	-0.46	5.4	1.9	79.3	0.03	6.0	2.4	12	LC
2F8YKK	89.0*	88.4*	88.5X	86.3X	88.0	3.19X	5.8	1.2	88.8	4.23X	5.8	1.5	12	TB
3E9D7J	77.5L	77.0	81.6	75.9	78.0	-0.40	4.3	2.5	77.1	-0.93	4.6	2.0	12	AX
4388RB	84.6	83.9H	84.9*	88.9X	85.6	2.32*	6.6	2.3	84.9	2.53*	5.9	1.9	11	TB
4CETW6	78.3	74.6	76.4	76.4	76.4	-0.97	4.3	1.5	77.4	-0.79	4.8	2.5	12	XX
4W7VXZ	81.9	75.8H	77.1	80.7	78.9	-0.08	5.6	2.9	78.5	-0.32	5.8	2.2	8	XX
4YV2FB	80.6	84.0	81.7	81.0	81.8	0.97	5.6	1.5	79.6	0.16	5.5	2.2	12	LA
7D3ZD8	84.0	81.5	78.7	79.5	80.9	0.65	4.2	2.4	79.9	0.30	4.6	2.1	11	LA
7MQVE9	79.3	79.9	77.2	77.8	78.6	-0.20	6.3	1.3	79.5	0.13	5.7	2.2	12	AH
8CHM42	76.6	79.2	74.2	70.6XL	75.2	-1.41	4.4	3.7	75.9	-1.47	4.5	2.8	12	LC
8GHR3E	78.9	78.9	76.5	80.3	78.6	-0.17	5.7	1.6	78.0	-0.52	5.4	1.6	12	TB
8LBT7E	77.5L	77.2	74.9L	75.2	76.2	-1.03	2.4	1.3	76.3	-1.29	2.9	1.1	12	AH
8RGKCR	79.5	79.0L	74.0	79.8	78.1	-0.37	5.4	2.7	78.3	-0.38	5.8	1.7	12	AA
8TB9T2	74.4H	76.2	75.8	77.2	75.9	-1.15	6.3	1.2	77.7	-0.65	5.1	2.2	12	LA
BPGLN3	80.4	83.0	80.5	80.5	81.1	0.71	4.6	1.3	79.0	-0.07	5.8	6.1H	12	LA
BZXHKU	70.7*	67.8*	68.2X	69.5X	69.1	-3.60X	7.4	1.3	70.3	-3.94X	8.3	2.4	12	XX
CDNLCQ	79.7	79.6	79.0	78.9	79.3	0.08	4.1	0.4	79.4	0.07	3.2	0.4L	8	LA
CLFYA6	72.9	72.8	75.1	74.5	73.8	-1.88	5.8	1.2	72.1	-3.12X	4.9	1.9	12	LA
DKFGMU	80.5	79.4	78.0	75.2	78.3	-0.30	5.5	2.3	77.9	-0.59	5.0	1.9	12	LA
DM7M77	81.5	79.2	79.1	78.5	79.6	0.16	6.0	1.3	79.8	0.27	5.6	2.2	12	LA
E6KGBL	74.7	79.4	79.2	77.2	77.6	-0.53	3.9	2.2	80.3	0.50	4.1	3.7	12	LC
EAVEWM	88.6*	82.8	80.6	78.6	82.7	1.27	6.1	4.3H	82.4	1.41	6.1	4.3	12	AH
EE9CB2	77.1	77.6	75.5	79.0	77.3	-0.65	4.8	1.4	79.2	-0.01	6.6	4.8H	12	LC
FTZDJR	78.9	78.6	79.2	80.3	79.3	0.05	5.0	0.7	79.5	0.12	4.9	1.4	12	TB
FX2FR2	78.9	75.4	83.3	76.6L	78.6	-0.20	4.9	3.5	76.2	-1.34	4.9	2.7	12	LC
FZ3MPK	80.8	80.9	82.3	82.0	81.5	0.86	4.0	0.8	80.6	0.61	4.1	1.2	12	RE
GJBZ3T	81.5	79.7	79.7H	80.1	80.3	0.41	6.7	0.9	79.1	-0.04	5.8	1.5	12	AH
H8YUP6	77.9	77.5L	76.6	78.7	77.7	-0.52	4.8	0.9	77.9	-0.56	4.1	1.5	12	AH
HD4WQY	75.0	73.4	76.1	74.9	74.9	-1.52	6.1	1.1	74.9	-1.88	5.8	1.1	12	LA
JU7TM4	78.9	78.3	81.0	80.4	79.6	0.19	3.9	1.2	79.8	0.24	4.1	1.1	12	TB
KMF3FY	81.0	87.7*	80.2	82.8	82.9	1.37	5.4	3.3	83.2	1.75	5.4	2.6	11	LZ
KWNGFF	79.9	78.7L	79.9	79.8	79.6	0.17	3.1	0.6	79.9	0.32	3.5	0.8	12	AH
LEHRKU	79.1	77.8	75.1	76.7	77.2	-0.69	4.4	1.7	77.5	-0.75	6.0	1.4	12	AH
MUUP4K	73.4	83.9	77.7	80.3	78.8	-0.10	4.5	4.4H	78.6	-0.28	4.7	2.5	12	LC
MVAPLP	85.7	89.9*H	82.6	83.0	85.3	2.21*	6.6	3.4	82.1	1.28	6.2	4.4	8	LA

Report #537

Containerboard Interlaboratory Testing Program
Analysis 207
Bursting Strength (Mullen), 36 lb Linerboard - 36Z2
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**					
NXAF7A	79.3	78.6 L	77.7	77.6 L	78.3	-0.29	2.3	0.8	78.2	-0.43	2.1	0.6	8	XX
P3VRHG	75.3	78.4	73.5	75.7	75.7	-1.21	4.5	2.0	76.3	-1.28	5.0	1.8	12	LA
QNTHD8	82.9	79.3	82.1	78.6	80.7	0.57	5.0	2.1	80.0	0.37	5.2	2.2	12	LJ
QW94KQ	74.6	77.4	76.5	73.1 *H	75.4	-1.33	6.6	1.9	76.8	-1.05	6.7	4.7 H	12	LC
R2DK8J	80.4	78.2	81.6 L	82.3	80.6	0.54	4.9	1.8	83.9	2.05*	7.2	9.6 H	8	LA
RFBDW8	No Data	No Data	79.7	80.3 L	80.0	0.32	2.6	0.4	79.9	0.32	3.7	0.5 L	6	AH
VDGQR9	82.8	79.8	84.3	82.5	82.4	1.16	3.9	1.9	83.3	1.79	4.2	1.6	12	XX
VJLLW3	75.4	75.6	77.3	76.3	76.2	-1.06	5.4	0.9	76.4	-1.22	4.8	1.1	12	LJ
VZCNC7	77.2	75.0	80.0	77.8	77.5	-0.57	6.2	2.1	78.2	-0.42	6.3	4.5	12	AH
XE7UJ8	78.5	79.5	78.2	79.4	78.9	-0.07	5.0	0.6	79.1	-0.04	5.2	1.6	12	LZ
XEHQNB	75.5	74.2	77.4	77.4	76.1	-1.07	4.2	1.6	78.0	-0.54	5.6	2.4	12	AH
XKQTAF	77.2	72.5	80.0	78.5	77.1	-0.73	5.3	3.2	78.4	-0.33	5.4	2.2	11	LC
XYRN88	85.1	85.3	82.8	81.6	83.7	1.64	4.3	1.8	82.7	1.54	4.9	2.4	12	LA
YMTBM2	86.4	85.1	81.8	79.7	83.3	1.48	4.9	3.1	82.7	1.54	5.4	2.5	12	AA
YR8NPA	78.1	77.3	79.5	78.4	78.3	-0.27	5.3	0.9	77.9	-0.55	6.4	1.8	12	LC
YVPAXM	77.8	75.5	77.6	77.2	77.1	-0.73	6.3	1.0	78.0	-0.53	5.5	1.2	8	LZ
Z3JD2J	86.2 H	83.4	84.4	81.8	83.9	1.72	6.3	1.8	83.8	2.03*	5.4	1.6	12	LC
ZEDTQK	75.6	76.1	78.1	78.0	77.0	-0.77	5.0	1.3	77.0	-0.95	5.1	1.0	12	LA
ZRJ293	85.6	82.9	No Data	No Data	84.3	1.85	6.1	1.9	78.8	-0.18	5.8	6.0 H	10	TB

Consensus (All Labs) Results

Wk Mean	79.49	79.04	78.87	78.71	**Month Mean**	79.10		**Grand Mean**	79.20	
Avg SDr	5.37	5.25	4.96	5.14	**Avg SDr**	5.13		**Avg SDr**	5.24	
SD btwn Labs	3.98	4.15	2.86	2.32	**SD btwn Labs**	2.80		**SD btwn Labs**	2.27	
Labs Incld	53	53	51	49	**SD btwn Wks**	2.06		**SD btwn Wks**	2.90	
Labs Excld	0	0	2	4	**Labs Incld**	52		**Labs Incld**	51	
Labs not rcvd	1	1	1	1						

Instrument Code List as Reported by the Labs

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

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
TAPPI Official Test Method T822
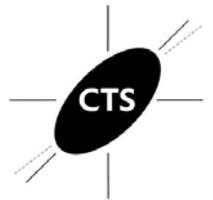
| | Weekly Means | | | | Monthly Results | | | | Cumulative Results | | | | | |
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2BC6P4	104.6	105.3	102.4 H	109.7	105.5	1.07	5.0	3.0	106.5	1.23	4.6	3.0	8	TC
2F8YKK	106.9	110.4 *	111.6 *	111.0 *	110.0	2.00	5.0	2.1	109.7	1.91	5.1	1.7	8	LX
3E9D7J	105.5	106.4	100.4	103.0	103.8	0.71	4.4	2.7	105.3	0.96	4.6	2.8	8	LX
4388RB	94.7	94.1	94.1	100.2	95.8	-0.95	3.8	3.0	96.2	-0.97	3.5	3.1	8	LC
4CETW6	104.7	103.7	112.2 *H	108.5	107.3	1.44	4.6	3.9	106.2	1.17	4.8	3.1	8	LZ
77KNZ7	104.2	100.3	99.7	97.6	100.5	0.02	3.8	2.7	101.5	0.16	3.7	2.2	8	LD
7D3ZD8	98.2 L	97.2	97.6	97.0	97.5	-0.59	2.8	0.6 L	100.0	-0.16	3.3	3.1	8	LD
7MQVE9	99.6	101.2	98.8	98.7	99.6	-0.16	4.1	1.2	100.7	0.00	3.8	1.7	8	LD
8CHM42	104.5	98.4	102.1	98.5	100.9	0.11	4.1	3.0	100.9	0.03	4.1	3.0	4	LD
8ETKJ4	94.9	97.6	96.7	97.1	96.6	-0.78	3.8	1.2	97.1	-0.78	3.9	2.0	8	XX
8GHR3E	97.5	102.7	99.7	99.1	99.8	-0.12	4.8	2.2	99.7	-0.23	4.6	6.6 H	8	LZ
8LBT7E	99.7	101.6	105.1	100.0	101.6	0.26	4.3	2.5	101.8	0.22	4.0	2.1	8	LC
BK9ANW	95.9	95.2	89.4	81.9 X	90.6	-2.03 *	2.6	6.5	92.4	-1.77	3.1	5.2	8	EM
BPGLN3	100.0	98.0	99.5	93.3	97.7	-0.55	4.2	3.1	99.4	-0.28	3.9	2.8	8	LZ
BV6FGU	98.5	96.2	100.1	101.8	99.1	-0.25	3.4	2.4	99.1	-0.34	3.4	2.4	4	EM
CDNLCQ	101.6 L	101.6	101.7	101.3 L	101.6	0.25	2.6	0.2 L	101.9	0.24	2.5	0.4 L	8	LZ
CLFYA6	97.3	98.4	93.8	95.8	96.3	-0.84	3.3	2.0	95.7	-1.08	3.4	2.4	8	LC
CUTQZ4	101.5	94.0	96.5	96.8	97.2	-0.65	3.4	3.1	97.5	-0.68	3.7	2.3	8	EN
D97TQQ	101.2	95.8 H	96.0 H	98.2	97.8	-0.53	5.8	2.5	99.3	-0.30	5.5	2.4	8	LC
DKFGMU	101.2	102.7	103.8	100.8	102.1	0.37	4.3	1.4	102.1	0.29	3.8	1.8	8	LD
DM7M77	91.9	97.5	93.9	93.9	94.3	-1.26	4.4	2.3	94.8	-1.27	4.0	1.7	8	LC
E467CT	99.3	98.6	100.2	95.6	98.4	-0.41	2.8	2.0	99.3	-0.31	3.2	1.8	8	LC
EAVEWM	108.6 L	108.8	109.7	107.9	108.8	1.75	3.6	0.7	109.5	1.87	3.7	2.6	8	LZ
EE9CB2	106.4	104.9	107.4	106.0	106.2	1.21	4.1	1.0	106.9	1.31	4.0	2.1	8	LC
FTZDJR	97.8	99.1	98.5	99.2	98.7	-0.35	2.7	0.7	98.8	-0.42	2.7	0.6 L	8	TH
FX2FR2	100.9	99.4	102.7 L	100.6	100.9	0.11	3.3	1.4	99.6	-0.23	3.5	1.7	8	LC
FZ3MPK	102.6	101.6	104.0	101.8	102.5	0.45	2.6	1.1	102.5	0.38	2.6	1.1	4	LZ
G6B2FW	99.3	No Data	No Data	No Data	99.3	-0.22	4.2	0.0 L	100.9	0.04	3.7	1.6	3	EX
G8ZC7P	103.4	104.3	104.5	104.4 L	104.1	0.79	3.5	0.5 L	101.6	0.19	4.8	2.8	8	MB
GXXBRJ	98.2	97.5	97.5	97.1	97.5	-0.59	2.8	0.5 L	97.6	-0.67	2.9	0.5 L	8	TH
H8YUP6	100.1	100.3	98.3	96.2	98.7	-0.34	3.1	1.9	100.3	-0.09	2.7	2.3	8	EM
HD4WQY	99.8	100.4	99.4	100.2	100.0	-0.08	3.6	0.4 L	99.8	-0.21	3.7	0.7	8	LC
HUR4PH	98.2	93.5	92.6 L	97.0	95.3	-1.05	3.4	2.7	96.1	-0.99	3.5	2.3	8	TD
JU7TM4	103.0	101.8	102.3 L	101.7	102.2	0.39	2.9	0.6 L	102.1	0.30	2.9	1.0	8	LD
KMF3FY	103.8	99.3	103.1	98.3	101.1	0.16	2.8	2.7	101.6	0.18	2.8	3.3	8	LC
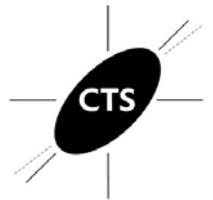
Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
TAPPI Official Test Method T822

CTS

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
MCTL2H	92.7	95.9	92.9	92.4	93.5	-1.43	3.2	1.6	93.2	-1.60	3.4	1.1	8	EM
MUUP4K	96.6	99.1	93.8	95.2	96.2	-0.87	3.7	2.3	93.9	-1.47	3.5	4.2	8	LD
NXAF7A	105.5 L	106.8	106.9	107.3	106.6	1.30	2.7	0.8	105.5	1.02	2.8	1.3	8	XX
PDHQB8	76.9 XL	83.0 X	83.5 X	93.3	84.2	-3.36 X	2.8	6.8	85.6	-3.23 X	2.9	4.9	8	MB
QNTHD8	101.9	100.2	105.2	98.5	101.4	0.23	4.3	2.9	100.5	-0.04	4.9	2.4	8	LD
QW94KQ	110.2 *	107.4	104.7	110.3 *	108.1	1.62	5.1	2.7	109.3	1.83	5.2	2.9	6	LC
R2DK8J	93.6 H	91.8 H	94.5 H	90.2 H	92.5	-1.63	8.9	1.9	92.5	-1.75	8.9	1.9	4	LC
RFBDW8	100.4 L	101.4	100.1 L	99.8	100.4	0.02	1.8	0.7	100.1	-0.13	2.3	0.7	8	LD
RYV3CU	54.0 X	53.7 X	52.4 X	53.6 X	53.4	-9.76 X	4.0	0.7	55.1	-9.74 X	4.2	2.0	8	MB
TAKKXC	94.3	92.5	97.3	94.6	94.7	-1.19	3.6	2.0	98.9	-0.40	4.0	4.7	8	EM
VBTGH8	96.1 H	105.9	136.0 X	104.8	110.7	2.15 *	6.0	17.5 H	110.7	2.13 *	6.0	17.5 H	4	XX
VDGQR9	98.0	100.7	102.1	98.4	99.8	-0.11	3.9	1.9	102.2	0.32	4.3	4.0	7	XX
VJLLW3	93.9	93.1	89.0	92.1	92.0	-1.73	4.3	2.1	90.1	-2.26 *	4.0	3.0	8	LC
VU8RQL	105.6	105.6	105.6	99.0	103.9	0.74	3.3	3.3	104.6	0.83	3.3	2.4	8	LD
VZCNC7	100.6	100.5	101.4	99.9	100.6	0.05	3.7	0.6 L	100.2	-0.11	3.5	1.2	8	LC
XEHQNB	104.8	107.7	104.8	105.0	105.6	1.08	4.4	1.4	106.4	1.22	4.4	2.0	8	LC
XYRN88	108.4 L	110.5 *L	108.2 L	109.9 L	109.3	1.85	1.6	1.1	110.5	2.09 *	3.0	3.5	8	LD
YMTBM2	94.3	94.6	95.3	96.2	95.1	-1.09	2.6	0.8	96.0	-1.01	2.9	1.1	8	LD
YR8NPA	98.7 H	99.5 H	98.9 H	99.5 H	99.1	-0.25	8.0	0.4 L	99.1	-0.34	8.0	0.4 L	4	LA
YVPAXM	96.5	99.0	101.2	99.5	99.1	-0.27	4.2	1.9	98.9	-0.39	4.3	1.8	8	LC
ZEDTQK	98.9	102.8	86.7 *H	88.3 *H	94.2	-1.28	6.9	7.9 H	98.7	-0.43	5.8	7.2 H	8	LC
ZRJ293	107.6	107.4	No Data	No Data	107.5	1.49	3.0	0.1 L	104.5	0.79	5.2	6.1 H	6	LC

Consensus (All Labs) Results										
Wk Mean	100.43	100.56	100.07	99.67	**Month Mean**	100.35		**Grand Mean**	100.74	
Avg SDr	4.31	4.05	4.07	4.11	**Avg SDr**	4.13		**Avg SDr**	4.18	
SD btwn Labs	4.39	4.66	5.52	5.18	**SD btwn Labs**	4.81		**SD btwn Labs**	4.68	
Labs Incld	55	54	52	53	**SD btwn Wks**	3.37		**SD btwn Wks**	3.67	
Labs Excld	2	2	3	2	**Labs Incld**	55		**Labs Incld**	55	
Labs not rcvd	0	1	2	2						

Containerboard Interlaboratory Testing Program
Analysis 215
Ring Crush, 42 lb Linerboard - 42B4
TAPPI Official Test Method T822

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EX) - Emerson (model not specified)

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

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

(EN) - Emerson 2200

(LA) - L&W Autoline

(LD) - L&W Crush Tester 248

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

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

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

Containerboard Interlaboratory Testing Program
Analysis 217
Ring Crush, 36 lb Linerboard - 36Z2
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				
2BC6P4	81.2	81.3	84.4	83.8	82.7	0.89	3.6	1.7	82.3	0.71	3.9	1.2	12	TC
2F8YKK	85.8	85.9	84.9	87.2	85.9	1.68	3.8	0.9	85.1	1.46	3.5	1.3	12	LX
3E9D7J	85.1	84.5	82.4	81.8	83.4	1.08	2.6	1.6	82.0	0.61	2.6	4.3	12	LX
4388RB	74.7	71.4 *	76.8	73.1	74.0	-1.19	3.6	2.3	74.9	-1.33	3.7	2.1	11	LC
4CETW6	85.1	82.9	82.8	85.3	84.0	1.22	2.6	1.4	84.3	1.24	3.0	1.3	12	LZ
77KNZ7	78.2	78.2	77.4	78.1	77.9	-0.25	3.1	0.4	78.1	-0.45	3.4	1.2	11	LD
7D3ZD8	82.2	79.4	76.1	80.8	79.6	0.15	2.9	2.6	79.2	-0.16	3.2	1.9	11	LD
7MQVE9	79.2	81.4 L	80.6	79.5 L	80.2	0.29	2.0	1.0	80.7	0.26	2.1	2.0	12	LD
8CHM42	83.4	81.8	80.0	82.4	81.9	0.71	3.4	1.4	84.4	1.28	4.1	6.6 H	12	LD
8ETKJ4	77.0	80.3	80.5	78.3	79.0	0.01	2.3	1.7	78.5	-0.33	2.5	1.2	12	XX
8GHR3E	78.9	83.2	83.0	82.3	81.9	0.70	2.8	2.0	81.0	0.34	4.1	4.5	12	LZ
8LBT7E	78.3	79.0	80.2	78.4	79.0	0.01	2.8	0.9	79.0	-0.22	3.2	0.9	12	LC
BK9ANW	74.9	76.0	69.9	68.3 *	72.3	-1.61	3.3	3.8	77.1	-0.74	2.9	4.1	12	EM
BPGLN3	79.3	79.1	75.8	72.5	76.7	-0.55	2.6	3.2	80.2	0.13	2.6	3.6	12	LZ
BV6FGU	80.7	80.1	78.8	80.3	80.0	0.24	2.7	0.8	79.7	-0.02	2.9	1.2	12	EM
CDNLCQ	80.2	80.5	80.6 L	80.0	80.3	0.33	2.1	0.3 L	80.0	0.05	2.0	0.7	8	LZ
CLFYA6	78.7	80.6	77.4	75.2	78.0	-0.24	3.9	2.3	75.3	-1.21	4.0	3.2	12	LC
CUTQZ4	79.2	77.6	78.4 L	76.3	77.9	-0.27	2.4	1.3	78.5	-0.33	2.2	1.3	12	EN
D97TQQ	76.0	75.7	71.6	73.0	74.1	-1.18	3.1	2.1	77.2	-0.71	3.3	4.1	11	LC
DKFGMU	79.3	77.2	77.9	79.1	78.4	-0.14	3.9	1.0	81.6	0.52	4.0	2.6	12	LD
DM7M77	76.7	76.2	75.8	76.3	76.3	-0.65	2.5	0.4 L	77.1	-0.73	2.8	1.5	12	LC
E467CT	74.4	76.1 L	76.5	66.9 *	73.5	-1.32	2.9	4.5 H	76.0	-1.02	2.9	3.5	12	LC
EAVEWM	77.8 H	76.4 H	73.4 H	74.5 H	75.5	-0.82	7.6	1.9	83.4	1.01	5.6	7.6 H	12	LZ
EE9CB2	85.3	83.3	83.7	84.0	84.1	1.23	3.3	0.9	84.8	1.39	3.3	0.9	12	LC
FTZDJR	78.7	79.3	78.0	77.7	78.4	-0.13	2.5	0.7	79.2	-0.16	2.7	1.1	12	TH
FX2FR2	78.6	79.2	80.2 L	79.0 L	79.2	0.06	1.6	0.7	75.7	-1.12	2.5	3.4	12	LC
FZ3MPK	78.9	80.6	79.3	78.7	79.4	0.10	3.0	0.9	81.4	0.45	2.9	2.2	12	LZ
G6B2FW	78.8	No Data	No Data	No Data	78.8	-0.04	3.3	0.0 L	77.4	-0.64	2.6	6.8 H	3	EX
G8ZC7P	78.4	83.2	80.5	77.4	79.9	0.22	2.5	2.6	80.3	0.15	2.9	2.4	12	MB
GXXBRJ	77.2	74.8	75.8	76.0 L	75.9	-0.73	2.4	1.0	75.4	-1.19	2.3	0.7	12	TH
H8YUP6	80.8	79.7	78.7	77.0	79.1	0.02	2.4	1.6	79.6	-0.04	2.0	1.4	12	EM
HD4WQY	79.6	82.4	79.9	80.9	80.7	0.42	2.9	1.3	80.6	0.23	2.9	0.8	12	LC
HUR4PH	71.1	70.8 *	71.2	72.7	71.4	-1.81	3.0	0.8	73.2	-1.81	2.6	1.9	12	TD
JU7TM4	84.2	81.7	82.8	80.8	82.4	0.82	2.1	1.5	82.2	0.68	2.5	1.0	12	LD
KMF3FY	81.8	80.3	82.5	78.7	80.8	0.45	2.6	1.7	81.0	0.34	2.3	2.5	11	LC

Containerboard Interlaboratory Testing Program
Analysis 217
Ring Crush, 36 lb Linerboard - 36Z2
TAPPI Official Test Method T822

	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
MCTL2H	75.3	76.3	75.8	75.6	75.7	-0.78	3.3	0.4	75.2	-1.25	3.0	0.9	12	EM
MUUP4K	82.7	82.0	75.8	82.8	80.8	0.44	4.2	3.4	81.1	0.37	3.4	3.5	12	LD
NXAF7A	82.9	83.3	84.0	82.0	83.0	0.98	2.6	0.8	83.9	1.13	2.7	1.4	8	XX
PDHQB8	71.4	65.9 X	66.7 *	74.3 L	69.6	-2.26 *	3.2	3.9	71.4	-2.29 *	4.6	3.4	8	MB
QNTHD8	78.7	79.8	78.6	76.8	78.5	-0.11	3.7	1.3	78.7	-0.30	3.3	1.7	12	LD
QW94KQ	90.0 *H	87.0 H	82.9 H	89.6 *	87.4	2.02 *	5.7	3.2	87.9	2.23 *	4.6	4.2	12	LC
R2DK8J	67.8 *	71.7 H	73.7 H	70.9 H	71.0	-1.91	5.8	2.5	70.4	-2.59 *	8.4	7.9 H	8	LC
RFBDW8	80.5 L	80.4	80.1 L	80.5 L	80.4	0.34	1.2	0.2 L	79.9	0.03	2.2	0.6 L	12	LD
RYV3CU	40.0 X	40.9 X	39.1 X	39.2 X	39.8	-9.43 X	3.6	0.8	54.5	-6.95 X	5.5	11.9 H	12	MB
TAKKXC	71.8	68.8 *	70.1	67.2 *	69.5	-2.28 *	3.0	1.9	78.1	-0.44	2.8	6.5 H	12	EM
VBTGH8	84.0	81.3	83.4	86.0	83.7	1.13	3.0	1.9	83.7	1.08	3.0	1.9	4	XX
VDGQR9	74.3	78.5	70.8	77.1	75.2	-0.91	3.1	3.4	78.2	-0.44	3.1	4.4	12	XX
VJLLW3	78.2	77.1	76.7	79.2	77.8	-0.28	2.5	1.1	79.3	-0.11	2.6	2.5	12	LC
VU8RQL	82.6	83.2	82.1	81.7	82.4	0.83	2.5	0.7	82.2	0.69	2.6	1.1	12	LD
VZCNC7	80.1	78.0	80.3	79.6	79.5	0.13	3.1	1.0	80.1	0.10	3.0	1.2	12	LC
XEHQNB	80.7	83.2	83.7	81.3	82.3	0.79	2.8	1.5	82.0	0.63	3.4	2.5	12	LC
XYRN88	89.2 *	85.7	84.3	86.3 L	86.4	1.79	1.8	2.1	84.9	1.42	2.2	2.4	12	LD
YMTBM2	72.9	74.2	74.0	72.8	73.5	-1.32	2.4	0.7	75.0	-1.31	3.7	4.3	12	LD
YR8NPA	85.6 H	89.9 *	87.6 *H	81.1 H	86.0	1.71	5.6	3.7	87.4	2.10 *	5.8	3.5	12	LA
YVPAXM	73.8	77.2	81.3	77.0	77.3	-0.40	3.2	3.1	77.6	-0.60	3.7	2.3	8	LC
ZEDTQK	81.4	81.3	78.1	68.6 H	77.4	-0.39	4.8	6.0 H	79.9	0.03	4.0	3.9	12	LC
ZRJ293	80.8	83.6	No Data	No Data	82.2	0.78	2.8	2.0	83.0	0.90	4.0	7.5 H	10	LC

Consensus (All Labs) Results								
Wk Mean	79.36	79.68	78.66	78.26	**Month Mean**	78.96	**Grand Mean**	79.75
Avg SDr	3.18	3.06	3.47	3.46	**Avg SDr**	3.29	**Avg SDr**	3.42
SD btwn Labs	4.39	4.08	4.41	4.96	**SD btwn Labs**	4.15	**SD btwn Labs**	3.63
Labs Incld	56	54	54	54	**SD btwn Wks**	2.14	**SD btwn Wks**	3.36
Labs Excld	1	2	1	1	**Labs Incld**	56	**Labs Incld**	56
Labs not rcvd	0	1	2	2				

Containerboard Interlaboratory Testing Program
Analysis 217
Ring Crush, 36 lb Linerboard - 36Z2
TAPPI Official Test Method T822

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(EX) - Emerson (model not specified)

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

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

(EN) - Emerson 2200

(LA) - L&W Autoline

(LD) - L&W Crush Tester 248

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

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

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

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**				
2BC6P4	24.6 L	24.7 L	26.9 L	27.1 L	25.8	0.80	0.4	1.4	25.8	0.77	0.5	1.1	8	LA
3E9D7J	23.2	22.3	21.5 X	21.0 *	22.0	-2.30 *	1.6	1.0	23.2	-1.49	1.7	2.6 H	8	XX
4388RB	24.5	24.4	24.4	24.0	24.3	-0.40	1.8	0.2	24.3	-0.50	1.8	0.6	8	LW
4W7VXZ	23.7	26.6	25.6	25.5	25.4	0.42	1.6	1.2	25.4	0.38	1.6	1.2	4	XX
7MQVE9	24.1	24.4	24.5	23.6	24.2	-0.55	1.7	0.4	24.3	-0.54	1.7	0.5	8	LU
8CHM42	25.1	24.0	25.2	25.0	24.8	0.01	2.5	0.5	24.8	-0.06	2.5	0.5	4	LZ
8ETKJ4	24.3	24.2	24.9	23.9	24.3	-0.40	2.2	0.4	24.2	-0.60	2.0	0.5	8	XX
8GHR3E	24.1	21.5 *	24.8	25.0	23.9	-0.79	2.9	1.6	23.9	-0.85	2.4	1.1	8	LZ
8LBT7E	25.1	24.7	25.0	25.1	25.0	0.10	1.4	0.2	25.0	0.04	1.3	0.3	8	LW
8TB9T2	26.3	26.8	26.7	27.8	26.9	1.68	2.5	0.6	26.4	1.28	2.4	0.8	8	LW
BJRA7R	24.9	24.0	25.0	24.6	24.6	-0.17	1.9	0.4	24.7	-0.15	1.3	0.7	8	LY
BPGLN3	24.9	24.8	25.1	23.9	24.7	-0.14	2.3	0.5	25.1	0.14	2.3	0.7	7	LW
CLFYA6	23.0 L	25.9	23.8	24.5	24.3	-0.41	2.6	1.2	24.1	-0.70	2.6	0.9	8	LY
CUTQZ4	23.7	22.5	23.5	22.8	23.1	-1.38	1.9	0.6	22.9	-1.67	2.0	0.7	8	LU
DM7M77	25.2	25.0	24.8	25.7	25.2	0.28	2.5	0.4	24.3	-0.49	2.2	1.0	8	XX
DYY7LW	26.3 L	24.2 L	24.9 L	24.0 L	24.9	0.02	0.0	1.1	24.8	-0.11	0.0	0.8	8	LU
E467CT	21.8 *	22.9	23.1	23.1	22.7	-1.70	1.5	0.6	22.8	-1.82	1.5	0.7	8	LU
E6KGBL	24.3 L	24.8 L	24.7 L	22.1 L	24.0	-0.69	0.4	1.3	24.1	-0.64	0.4	0.9	8	LA
EE9CB2	23.6 L	25.5 L	25.2 L	25.0 L	24.8	-0.01	0.0	0.8	25.4	0.42	0.0	0.9	8	LA
FTZDJR	23.8	24.0	24.2	24.1	24.0	-0.65	1.2	0.2 L	24.2	-0.58	1.1	0.3	8	TT
FX2FR2	24.9 L	24.6 L	25.9 L	25.9 L	25.3	0.38	0.5	0.7	25.3	0.31	0.5	0.5	8	LA
G6B2FW	24.2 L	No Data	No Data	No Data	24.2	-0.51	0.0	0.0 L	25.6	0.60	0.0	1.2	3	LZ
G8ZC7P	24.5 L	25.1 L	24.6 L	25.7 L	25.0	0.11	0.1	0.5	25.3	0.29	0.1	0.5	8	LA
GJBZ3T	24.7	23.9	23.4	24.3	24.1	-0.60	2.7	0.6	23.9	-0.82	2.5	0.4	8	LW
HD4WQY	24.1	24.4	24.9	24.4	24.5	-0.30	1.9	0.3	24.6	-0.29	1.8	0.5	8	LW
JU7TM4	23.6	24.1	23.1	23.2	23.5	-1.08	1.5	0.5	23.9	-0.84	1.4	0.8	8	BK
KMF3FY	24.9	24.6	23.6	27.0	25.0	0.14	2.1	1.4	25.1	0.17	2.1	1.0	8	LW
KRAWDZ	24.0 L	24.4 L	20.3 XL	23.6 L	23.1	-1.43	0.5	1.9 H	23.3	-1.36	0.7	1.6	8	XX
KWNGFF	24.1	24.6	24.4	24.2	24.3	-0.42	1.2	0.2	24.3	-0.52	1.1	0.4	8	TT
LEHRKU	26.0	27.3	26.2	26.1 L	26.4	1.26	1.8	0.6	27.2	1.97	2.2	1.3	8	LU
MUUP4K	24.0 L	23.7 L	26.6 L	25.8 L	25.0	0.14	0.5	1.4	24.6	-0.27	0.5	1.2	8	LA
MVAPLP	25.4	26.4 L	24.3	27.4	25.9	0.84	1.4	1.3	25.9	0.82	1.4	1.3	4	LU
P3VRHG	22.3	23.4	23.9	22.7	23.1	-1.42	2.0	0.7	23.1	-1.55	1.8	0.7	8	LU
QNTHD8	24.1	24.3	25.9	24.8	24.8	-0.05	2.2	0.8	24.8	-0.07	2.1	0.7	8	LU
QW94KQ	26.3	26.5 L	25.7 L	26.9	26.3	1.22	1.2	0.5	26.4	1.27	1.5	0.6	7	LA

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**					
RFBDW8	24.0	24.1	25.1	24.6	24.4	-0.33	1.7	0.5	24.4	-0.41	1.8	0.4	8	LY
RYV3CU	27.7*	26.8	25.8 L	26.5	26.7	1.52	0.8	0.8	27.2	1.96	0.7	3.0 H	8	BK
VBTGH8	46.2 XL	26.5 L	27.0 L	26.1 L	31.5	5.35 X	0.2	9.8 H	31.5	5.55 X	0.2	9.8 H	4	XX
VZCNC7	25.6	25.1	24.8	24.2	24.9	0.08	1.9	0.6	24.8	-0.12	1.9	0.6	8	LU
XE7UJ8	27.6	28.2*	25.5	24.7	26.5	1.34	2.0	1.7	26.6	1.42	2.1	1.1	8	LZ
XEHQNB	28.4*	28.3*	27.2	27.7	27.9	2.47*	1.4	0.6	27.2	1.90	1.3	1.1	8	LY
XKQTAF	26.1	25.9	26.3	28.1	26.6	1.42	2.0	1.0	26.4	1.26	2.3	0.7	8	LA
YMTBM2	22.7	22.6	22.7*	22.3	22.6	-1.83	1.9	0.2 L	22.7	-1.84	1.9	0.2	8	LW
YR8NPA	27.1 L	26.1 L	25.2 L	24.4 L	25.7	0.69	0.6	1.2	25.7	0.66	0.6	1.2	4	LA
YVPAXM	25.9	25.3	25.7	25.7	25.6	0.65	1.9	0.2	25.4	0.41	1.9	0.4	8	LW
Z3JD2J	25.6	25.0	27.8*	27.2	26.4	1.28	2.4	1.3	26.8	1.60	2.3	1.2	8	LA
ZEDTQK	26.8 L	25.4	25.9 L	24.9 L	25.7	0.73	0.7	0.8	25.6	0.63	0.7	1.0	8	LW

Consensus (All Labs) Results

Wk Mean	24.80	24.87	25.08	24.91	**Month Mean**	24.83	**Grand Mean**	24.91	
Avg SDr	1.69	1.62	1.77	1.86	**Avg SDr**	1.75	**Avg SDr**	1.70	
SD btwn Labs	1.40	1.45	1.16	1.61	**SD btwn Labs**	1.24	**SD btwn Labs**	1.18	
Labs Incld	46	46	44	46	**SD btwn Wks**	0.89	**SD btwn Wks**	1.02	
Labs Excld	1	0	2	0	**Labs Incld**	46	**Labs Incld**	46	
Labs not rcvd	0	1	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 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 225
STFI, 36 lb Linerboard - 36Z2
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
2BC6P4	22.0 L	22.9 *L	22.0 L	22.3 L	22.3	1.60	0.3	0.4	21.9	1.02	0.3	1.3	12	LA
3E9D7J	19.5	19.1	17.9 X	18.0 X	18.6	-2.62 *	1.2	0.8	19.2	-2.14 *	1.1	0.9	8	XX
4388RB	21.2	21.5	21.3	22.4	21.6	0.80	1.3	0.6	21.6	0.60	1.2	0.4	11	LW
4W7VXZ	20.5	20.7	21.4	20.7	20.8	-0.12	0.8	0.4	20.1	-1.12	0.6	0.9	8	XX
7MQVE9	20.7	21.1	20.8	19.9	20.6	-0.33	1.3	0.5	21.1	0.10	1.2	0.5	12	LU
8CHM42	21.9	20.5	21.5	21.9	21.5	0.63	1.3	0.7	21.4	0.43	1.4	0.7	12	LZ
8ETKJ4	20.6	21.2	20.7	20.8	20.8	-0.10	1.2	0.3	20.9	-0.16	1.2	0.3	12	XX
8GHR3E	20.9	22.3	20.3	21.6	21.3	0.39	1.1	0.9	22.1	1.19	1.2	3.1 H	12	LZ
8LBT7E	21.0	20.6	21.2	21.0	20.9	0.03	1.0	0.2	21.2	0.18	1.0	0.3	12	LW
8TB9T2	20.9	21.1	21.0	21.4	21.1	0.22	1.2	0.2	22.0	1.05	1.3	0.7	12	LW
BJRA7R	20.8	21.6	20.9	21.5	21.2	0.31	1.3	0.4	21.1	0.06	1.0	0.3	12	LY
BPGLN3	21.0	21.1	21.4	20.7	21.0	0.15	1.2	0.3	21.5	0.48	1.4	0.6	12	LW
CLFYA6	20.6	18.8 *	21.2	19.5	20.0	-1.03	1.4	1.1	19.6	-1.71	1.3	0.8	12	LY
CUTQZ4	19.3	19.1	19.4 *	18.7 *	19.1	-2.08 *	1.1	0.3	18.9	-2.47 *	1.2	0.4	12	LU
DM7M77	20.9	20.4	20.7	21.0	20.8	-0.19	1.1	0.3	20.4	-0.78	1.1	0.7	12	XX
DYY7LW	21.4 L	20.3 L	20.0 L	20.2 L	20.5	-0.51	0.0	0.6	20.7	-0.39	0.0	0.4	12	LU
E467CT	19.9	19.2	20.2	20.2	19.9	-1.21	1.1	0.5	19.8	-1.50	1.1	0.4	12	LU
E6KGBL	21.0 L	20.8 L	20.7 L	20.1 L	20.6	-0.32	0.3	0.4	20.9	-0.14	0.2	0.4	12	LA
EE9CB2	21.1 L	21.8 L	21.4 L	21.9 L	21.5	0.71	0.0	0.4	21.2	0.22	0.0	0.7	12	LA
FTZDJR	20.3	20.6	20.5	20.2	20.4	-0.61	0.9	0.2	20.6	-0.52	1.0	0.3	12	TT
FX2FR2	20.5 L	20.6 L	21.1 L	20.4 L	20.6	-0.32	0.3	0.3	20.9	-0.17	0.2	1.1	12	LA
G6B2FW	17.9 XL	No Data	No Data	No Data	17.9	-3.48 X	0.0	0.0 L	18.1	-3.41 X	0.0	1.0	3	LZ
G8ZC7P	20.8 L	21.5 L	22.2 L	21.1 L	21.4	0.58	0.0	0.6	21.3	0.26	0.0	0.6	12	LA
GJBZ3T	21.0	20.9	20.6	21.4	21.0	0.07	1.4	0.4	20.8	-0.27	1.3	0.3	12	LW
HD4WQY	21.5	20.5	20.9	21.5	21.1	0.20	1.1	0.5	20.9	-0.17	1.1	0.5	12	LW
JU7TM4	21.4	20.6	20.8	21.0	21.0	0.04	1.0	0.4	20.8	-0.34	0.8	0.3	12	BK
KMF3FY	21.1	21.2	20.8	20.7	20.9	0.02	1.1	0.2	21.2	0.19	1.2	0.4	11	LW
KRAWDZ	19.2 *L	18.8 *L	16.9 XL	19.4	18.6	-2.70 *	0.4	1.1	20.4	-0.77	0.6	1.5 H	12	LW
KWNGFF	20.8	20.7	20.7	20.2	20.6	-0.38	0.9	0.3	20.9	-0.17	0.9	0.3	12	TT
LEHRKU	21.5	21.4	22.1	21.7	21.7	0.89	1.3	0.3	22.3	1.46	1.3	0.7	12	LU
MUUP4K	19.8 L	20.1 L	20.8 L	21.1 L	20.4	-0.55	0.2	0.6	21.0	-0.11	0.3	0.9	12	LA
MVAPLP	21.5	22.0	21.2	20.7	21.4	0.50	1.0	0.5	20.7	-0.43	0.7	0.9	8	LU
P3VRHG	19.5	19.9	19.3 *	20.0	19.7	-1.43	1.2	0.4	19.4	-1.88	1.1	0.4	12	LU
QNTHD8	20.8	21.3	21.0	21.6	21.2	0.30	1.0	0.4	21.4	0.37	1.2	0.4	12	LU
QW94KQ	22.0	22.0 L	21.9 L	21.2	21.8	1.02	0.8	0.4	22.4	1.52	0.6	0.6	12	LA

Report #537

Containerboard Interlaboratory Testing Program
Analysis 225
STFI, 36 lb Linerboard - 36Z2
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
RFBDW8	21.0	20.4	21.1	21.3	21.0	0.06	1.1	0.4	20.8	-0.30	1.2	0.3	12	LY
RYV3CU	20.5 L	21.4 L	21.2 L	22.7 L	21.4	0.61	0.3	0.9	21.9	0.93	0.3	0.7	12	BK
VBTGH8	34.0 XL	21.7 L	22.4 L	22.6 L	25.2	4.93 X	0.1	5.9 H	25.2	4.81 X	0.1	5.9 H	4	XX
VZCNC7	21.0	20.8	21.6	21.5	21.2	0.34	1.3	0.4	21.5	0.49	1.3	0.4	12	BK
XE7UJ8	22.6 *	20.9	22.8 *	21.2	21.9	1.11	1.3	1.0	22.2	1.32	1.6	1.1	12	LZ
XEHQNB	22.1	22.1	21.0	22.1	21.8	1.06	0.6	0.6	21.7	0.75	0.6	0.5	12	LY
XKQTAF	22.6	22.4	20.9	23.5 *	22.3	1.64	1.1	1.1	22.3	1.49	1.5	1.2	11	LA
YMTBM2	19.1 *	18.8 *	19.6	19.2	19.2	-2.00 *	1.1	0.3	19.9	-1.30	1.2	0.7	12	LW
YR8NPA	21.4 L	22.2 L	21.6 L	20.9 L	21.5	0.71	0.3	0.5	21.8	0.86	0.3	0.7	12	LA
YVPAXM	21.4	22.4	21.9	20.8	21.6	0.84	1.8	0.7	22.2	1.28	1.9	0.8	8	LY
Z3JD2J	21.2	21.0	23.1 *	22.7	22.0	1.24	1.3	1.0	22.2	1.34	1.2	0.7	12	LA
ZEDTQK	22.2	20.8	21.4	20.7	21.3	0.43	0.8	0.7	20.4	-0.76	0.7	0.9	12	LW

Consensus (All Labs) Results

Wk Mean	20.93	20.89	21.10	21.05	**Month Mean**	20.91	**Grand Mean**	21.05	
Avg SDr	1.07	1.04	0.98	1.04	**Avg SDr**	1.04	**Avg SDr**	1.05	
SD btwn Labs	0.83	1.00	0.79	0.99	**SD btwn Labs**	0.87	**SD btwn Labs**	0.86	
Labs Incld	45	46	44	45	**SD btwn Wks**	0.58	**SD btwn Wks**	0.83	
Labs Excld	2	0	2	1	**Labs Incld**	45	**Labs Incld**	45	
Labs not rcvd	0	1	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 (was 52M)

(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
7MQVE9	137.7	0.85	11.5	139.0	0.27	12.2	4	EV
8CHM42	127.0	0.02	10.0	140.6	0.33	10.4	3	LA
BPGLN3	130.9	0.32	11.2	143.1	0.42	11.8	4	EV
CUTQZ4	140.8	1.09	9.9	148.6	0.63	12.4	4	EV
E6KGBL	114.9	-0.91	8.9	114.6	-0.63	7.0	4	EV
EE9CB2	126.0	-0.05	10.6	126.7	-0.18	16.4	4	LA
FX2FR2	188.6	4.77 **X**	23.7	166.7	1.30	23.7	4	EV
G8ZC7P	137.6	0.84	22.1	135.7	0.15	18.5	4	LA
GJBZ3T	102.1	-1.89	9.0	99.3	-1.20	8.7	4	EV
MVAPLP	128.7	0.16	13.3	64.5	-2.49 *	9.4	2	EV
P3VRHG	138.8	0.94	13.9	143.3	0.43	11.7	4	EV
QW94KQ	116.5	-0.78	25.4	139.2	0.28	22.1	4	LA
R2DK8J	129.9	0.25	8.1	43.5	-3.27 **X**	4.7	3	EV
RX2EVJ	124.1	-0.20	13.6	126.9	-0.17	11.9	4	EV
VBTGH8	146.6	1.53	21.7	145.1	0.50	36.9	2	EV
XE7UJ8	246.4	9.23 **X**	130.8	180.8	1.82	88.4	4	LA
XEHQNB	108.5	-1.40	7.4	101.3	-1.12	6.6	4	EV
XKQTAF	122.0	-0.36	12.7	117.5	-0.52	12.4	4	LA
XYRN88	126.0	-0.05	7.6	123.1	-0.32	7.1	4	EV
YR8NPA	100.6	-2.01 *	12.0	100.0	-1.17	11.3	3	LA
YVPAXM	143.3	1.28	14.4	175.1	1.61	16.3	2	EV
ZEDTQK	131.5	0.37	16.0	133.2	0.06	13.5	4	EV

Consensus (All Labs) Results

Month Mean	126.67		Grand Mean	131.64
Avg SDr	13.86		Avg SDr	24.58
SD btwn Labs	12.98		SD btwn Labs	26.98
Labs Incld	20		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
2BC6P4	167.4	-0.08	7.0		162.0	-0.17	4.7	4	SC
3E9D7J	212.2	2.10 *	48.3		158.3	-0.34	27.0	4	SC
7D3ZD8	166.9	-0.11	5.9		170.0	0.21	5.2	4	SC
7MQVE9	156.2	-0.63	2.2		153.5	-0.56	4.4	4	TM
DKFGMU	167.2	-0.09	8.2		166.4	0.04	6.7	4	SC
E467CT	185.8	0.81	12.4		182.1	0.76	13.5	4	XX
FX2FR2	194.0	1.21	19.2		201.1	1.64	27.8	4	HY
HD4WQY	193.4	1.18	6.7		192.9	1.26	9.1	4	HY
MVAPLP	141.4	-1.35	3.9		142.8	-1.05	14.6	3	TM
QNTHD8	148.4	-1.01	13.0		133.8	-1.47	16.7	4	HZ
R2DK8J	144.4	-1.20	9.2		136.8	-1.33	18.3	3	TM
VZCNC7	168.6	-0.03	6.8		170.5	0.23	6.7	4	HY
WGUW39	154.0	-0.74	7.1		154.8	-0.50	6.1	4	TM
XE7UJ8	153.0	-0.78	15.3		145.0	-0.95	12.2	4	TM
YMTBM2	178.2	0.44	6.3		176.1	0.49	5.7	4	TM
YR8NPA	151.6	-0.85	3.8		159.8	-0.27	7.9	3	TM
ZEDTQK	192.0	1.12	16.4		209.3	2.02*	20.6	4	SC

Consensus (All Labs) Results

Month Mean	169.10		**Grand Mean**	165.59
Avg SDr	15.29		**Avg SDr**	14.26
SD btwn Labs	20.51		**SD btwn Labs**	21.63
Labs Incld	17		**Labs Incld**	17

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
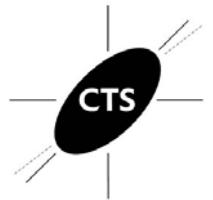
WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2BC6P4	29.6	1.02	0.5	29.6	1.12	1.2	4	ZZ
4388RB	26.6	-0.31	1.1	27.2	-0.10	2.2	4	ZZ
4W7VXZ	27.2	-0.04	1.9	28.6	0.64	1.9	3	ZZ
7MQVE9	25.4	-0.84	1.1	28.2	0.43	1.5	4	ZZ
CUTQZ4	26.2	-0.48	1.5	25.9	-0.74	1.4	4	ZZ
CZV3WZ	26.5	-0.35	3.1	27.6	0.10	2.8	4	ZZ
FX2FR2	27.3	0.01	1.6	27.4	0.04	2.7	4	ZZ
GJBZ3T	28.8	0.66	1.1	28.6	0.65	1.2	4	ZZ
HD4WQY	25.6	-0.75	1.1	26.3	-0.56	2.0	4	ZZ
MUUP4K	32.6	2.35 *	1.1	31.2	1.96	1.7	4	ZZ
MVAPLP	29.1	0.80	2.2	29.2	0.93	2.7	3	ZZ
P3VRHG	27.2	-0.04	2.2	27.3	-0.05	1.9	4	ZZ
R2DK8J	29.3	0.89	1.3	28.5	0.57	2.5	3	ZZ
VZCNC7	23.0	-1.90	0.7	23.0	-2.22 *	1.2	4	ZZ
XE7UJ8	24.8	-1.11	2.5	25.0	-1.22	2.1	4	ZZ
YMTBM2	26.5	-0.34	3.5	27.0	-0.19	3.7	4	ZZ
YR8NPA	30.4	1.37	2.9	30.0	1.35	2.2	3	ZZ
YVPAXM	25.6	-0.75	1.1	25.3	-1.06	1.4	3	ZZ
ZEDTQK	25.2	-0.93	3.1	25.9	-0.74	2.4	4	ZZ
ZRJ293	29.0	0.75	2.8	25.6	-0.92	2.6	4	ZZ

Consensus (All Labs) Results

Month Mean	27.30		**Grand Mean**	27.35
Avg SDr	2.03		**Avg SDr**	2.16
SD btwn Labs	2.26		**SD btwn Labs**	1.96
Labs Incld	20		**Labs Incld**	20

Instrument Code List as Reported by the Labs

(ZZ) - Instruments No Longer Tracked

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

| WebCode | Monthly Results | | | Cumulative Results | | | | |
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2VYWLF	42.9	-1.78	1.9	42.9	-2.49 *	1.9	1	GS
4388RB	47.1	-0.64	1.4	47.6	-0.94	1.7	4	LP
4W7VXZ	41.2	-2.22 *	2.5	31.9	-6.09 X	2.1	3	XX
7D3ZD8	51.7	0.59	1.1	51.6	0.37	1.8	4	LP
CDNLCQ	51.0	0.40	3.7	51.0	0.17	3.9	3	XX
CZV3WZ	42.6	-1.84	2.3	44.5	-1.95	2.1	4	GA
EE9CB2	50.9	0.37	1.9	52.9	0.80	6.5	4	TL
FX2FR2	54.0	1.21	3.2	55.0	1.48	2.2	4	LA
HD4WQY	51.3	0.47	1.9	52.7	0.73	1.9	4	XX
MUUP4K	53.2	0.99	1.3	53.4	0.96	1.4	4	LA
MVAPLP	42.9	-1.78	1.7	16.5	-11.16 X	1.0	3	XX
P3VRHG	51.4	0.52	1.2	51.5	0.33	2.0	4	LP
QW94KQ	51.3	0.47	1.6	50.8	0.09	1.5	4	LA
R2DK8J	53.1	0.96	2.0	19.9	-10.03 X	1.1	3	LA
RFBDW8	50.0	0.13	1.2	49.9	-0.20	1.0	4	LP
VBTGH8	46.4	-0.84	2.8	46.4	-1.35	2.8	1	LW
VDGQR9	51.7	0.59	3.0	51.1	0.20	3.0	4	GG
VZCNC7	51.9	0.64	2.2	51.9	0.47	2.7	4	HG
XE7UJ8	50.2	0.19	3.4	48.7	-0.58	3.1	4	XX
YMTBM2	50.5	0.26	1.6	51.2	0.24	2.3	4	HG
YR8NPA	51.0	0.40	2.7	52.2	0.57	2.3	3	LA
Z2PPKA	51.9	0.63	1.5	52.9	0.78	1.7	4	XX
ZEDTQK	50.5	0.27	2.3	51.5	0.32	2.3	4	HG

Consensus (All Labs) Results

Month Mean	49.50		**Grand Mean**	50.47
Avg SDr	2.22		**Avg SDr**	2.67
SD btwn Labs	3.73		**SD btwn Labs**	3.05
Labs Incld	23		**Labs Incld**	20

Containerboard Interlaboratory Testing Program
Analysis 237
Air Resistance, 36 lb Linerboard - 36Z
TAPPI Official Test Method T460
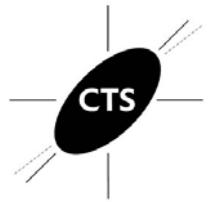
Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(GG) - Gurley Precision #4320 Densometer

(GS) - Gurley Hill S-P-S Tester #4190

(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

(XX) - Instrument make/model not specified by lab
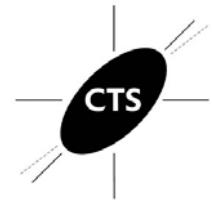
Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM73
TAPPI Official Test Method T809

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
2F8YKK	62.5 L	62.5	62.0	62.4	62.3	0.25	2.8	0.3 L	59.5	-1.28	2.5	2.4	16	LD
2QJ944	64.3	65.9	64.0	60.2	63.6	0.75	3.6	2.4	63.5	0.72	3.0	1.6	12	LZ
2VYWLF	59.8	58.2	61.3	No Data	59.7	-0.78	4.2	1.6	64.7	1.33	4.7	6.3 H	6	LC
3E9D7J	60.2	62.0	61.2	61.5	61.2	-0.19	2.5	0.7	59.8	-1.18	3.3	1.6	16	LX
4388RB	64.9	64.0	67.0	67.0 *	65.7	1.59	2.6	1.5	64.8	1.42	3.0	1.5	13	LC
7MQVE9	60.1	61.0	61.0	61.7	61.0	-0.30	3.2	0.7	61.5	-0.28	3.1	1.0	16	LD
8CHM42	59.4	62.3	62.6	57.9	60.5	-0.46	3.1	2.3	60.5	-0.80	3.0	1.5	12	LD
8GHR3E	58.1	67.0 H	69.4 *H	60.4	63.7	0.80	5.0	5.3 H	62.7	0.32	4.2	3.4	16	LZ
8LBT7E	59.9	60.1	59.9 L	60.9	60.2	-0.60	1.8	0.5	60.8	-0.63	1.8	0.8	16	LC
8TB9T2	63.5	64.9	67.4	64.1 L	65.0	1.29	2.0	1.7	62.8	0.38	2.0	2.2	11	LC
99JJYZ	62.4	63.2	62.1	62.3	62.5	0.30	2.9	0.5	61.8	-0.11	2.7	0.8	16	LD
9QFAR9	61.4	59.6	59.3	61.4 H	60.4	-0.52	3.3	1.1	61.5	-0.31	2.7	1.3	16	EM
A2DG3X	63.2	64.5	61.9	63.4	63.3	0.61	3.5	1.1	63.9	0.92	3.3	1.1	16	TM
ACXJT7	62.6	63.0	62.5	62.2	62.6	0.34	2.6	0.3	62.5	0.25	2.4	0.4 L	16	LD
B3JC72	63.1	62.0	62.6	62.3	62.5	0.31	2.8	0.5	62.5	0.21	2.4	0.4	16	LC
DKFGMU	57.9	58.9	56.8	58.4 H	58.0	-1.47	3.5	0.9	63.0	0.46	3.9	3.1	16	LD
DM7M77	59.9	59.9	59.0	61.9 L	60.2	-0.61	2.4	1.2	62.5	0.21	3.0	1.9	16	LC
E467CT	59.6	56.3 *	57.4	58.2	57.9	-1.51	2.9	1.4	59.7	-1.22	3.3	2.4	16	LC
FTZDJR	61.4	60.4	61.2	60.8	61.0	-0.30	3.1	0.4	61.1	-0.49	2.7	0.5	16	TH
G6B2FW	59.2	No Data	No Data	No Data	59.2	-0.99	2.9	0.0 L	60.5	-0.82	3.1	1.6	6	LZ
G8ZC7P	56.0 *	56.0 *	56.5	58.0	56.6	-2.01 *	3.0	1.0	57.9	-2.13 *	3.0	2.5	16	MB
GJBZ3T	59.3 L	59.4	59.3 L	59.7 L	59.4	-0.91	1.4	0.2 L	59.6	-1.23	1.7	0.4	16	TH
H8YUP6	66.2	64.3	63.8	63.8	64.5	1.12	3.6	1.1	64.8	1.39	2.9	1.2	16	EM
HD4WQY	66.4	67.7 *	68.5 *H	67.0 *	67.4	2.25 *	5.2	0.9	65.0	1.49	4.2	2.2	12	LC
HUR4PH	63.0 L	61.5 L	61.7	61.5 L	61.9	0.08	1.3	0.7	62.0	-0.05	1.6	0.7	16	TD
KMF3FY	65.8	66.3	66.9	69.7 X	67.2	2.16 *	2.3	1.8	66.2	2.10 *	2.4	1.5	15	LC
KWNGFF	58.4	59.0	59.1	60.5	59.3	-0.96	3.0	0.9	59.6	-1.25	3.7	1.1	16	TG
LMHYGG	57.3	59.2	59.3	58.3	58.5	-1.26	2.1	0.9	59.5	-1.30	2.6	1.6	8	TD
M9AQYQ	58.4 H	61.7	57.9	65.2	60.8	-0.36	4.3	3.4	60.9	-0.57	3.4	3.1	15	LC
NXAF7A	63.3	62.8	63.5	61.7 H	62.8	0.44	3.4	0.8	64.3	1.14	2.9	1.3	16	XX
P3VRHG	67.1 *	67.9 *	62.5	62.7 H	65.0	1.32	4.6	2.9	63.1	0.51	3.8	2.6	15	LZ
P48BHE	58.3	62.8	62.5	65.3	62.2	0.21	3.0	2.9	60.6	-0.73	2.8	2.7	8	LD
PDHQB8	61.5 L	64.0	63.2	61.6	62.6	0.35	1.7	1.2	62.8	0.37	2.7	1.6	12	MB
PX3MPD	60.6	64.6	65.9	64.0	63.8	0.82	4.0	2.3	65.5	1.74	4.7	2.5	16	LC
QNTHD8	No Data	No Data	66.1 H	66.5 *	66.3	1.81	4.8	0.3	66.3	2.15 *	4.8	0.3 L	2	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
R2DK8J	63.9	65.0	63.3	59.9	63.0	0.52	2.7	2.2	60.2	-0.93	4.3	5.8 **H**	12	LC
RFBDW8	60.1	60.6	60.1	60.2 **L**	60.2	-0.59	1.6	0.2 **L**	60.7	-0.71	1.5	0.4	16	LD
RYV3CU	62.4 **H**	62.5	60.0	58.2	60.8	-0.37	3.8	2.1	60.0	-1.06	3.2	2.3	16	MB
V6Q2FE	No Data	61.9	61.9	62.1	61.9	0.08	2.9	0.1 **L**	61.9	-0.06	2.3	0.6	15	LD
VBTGH8	50.8 **XH**	58.6	53.9 *	60.3	55.9	-2.30 *	5.7	4.3 **H**	53.6	-4.34 **X**	4.9	4.2 **H**	8	XX
VEMBE9	61.5 **L**	61.1	60.2 **L**	59.3 **L**	60.5	-0.47	1.4	1.0	62.2	0.07	1.7	1.2	16	LC
VJLLW3	60.0	60.0	60.3	60.9	60.3	-0.56	2.6	0.4	61.2	-0.45	2.8	1.3	16	LC
VU8RQL	62.1	64.3	62.4	61.1	62.5	0.30	3.4	1.4	63.1	0.52	3.0	1.5	16	LD
VZCNC7	61.2 **H**	62.2	58.9	60.2	60.6	-0.43	3.6	1.4	61.2	-0.44	3.5	1.2	16	LC
Z2PPKA	62.2	60.9	64.1	62.2	62.3	0.25	3.1	1.3	61.7	-0.20	3.0	1.1	16	LD
Z3JD2J	61.4	59.9 **L**	64.1 **L**	61.3	61.7	-0.02	1.9	1.7	63.1	0.53	3.0	1.8	16	XX

				Consensus (All Labs) Results							
Wk Mean	61.38	62.04	61.87	61.59	Month Mean		61.71		Grand Mean		62.06
Avg SDr	3.22	3.07	3.09	3.07	Avg SDr		3.22		Avg SDr		3.12
SD btwn Labs	2.56	2.80	3.23	2.32	SD btwn Labs		2.53		SD btwn Labs		1.96
Labs Incld	43	44	45	43	SD btwn Wks		1.75		SD btwn Wks		2.13
Labs Excld	1	0	0	1	Labs Incld		46		Labs Incld		45
Labs not rcvd	2	2	1	2							

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

(LX) - L & W 506

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

(MB) - Messmer Buchel K440

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

(TG) - TMI Compression Tester, Model 17-10

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

(TM) - TMI/Hinde & Dauch

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

Containerboard Interlaboratory Testing Program
Analysis 250
Fluted Edge Crush Strength (CFC), 26 lb Corrugating Medium - CM73
TAPPI Official Method T824

WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
4388RB	73.9	74.7 L	74.7	72.1 H	73.9	0.42	2.6	1.2	74.1	0.63	3.0	2.1	13	XX
8GHR3E	74.0	70.3 H	70.5 H	78.2	73.3	0.25	4.5	3.7	75.1	1.06	4.4	4.6 H	16	LZ
8LBT7E	71.8	70.6	72.2	71.6	71.6	-0.24	2.0	0.7	71.4	-0.68	1.8	3.2	16	LC
CDNLCQ	73.8	71.6	72.6 L	73.3	72.8	0.11	1.4	1.0	73.0	0.09	1.4	0.6	12	XX
HUR4PH	70.7	71.3	71.8	74.1	72.0	-0.12	1.6	1.5	72.7	-0.04	2.1	1.0	16	TD
KMF3FY	75.4	74.1	76.7	78.7	76.3	1.12	2.0	2.0	75.7	1.36	2.4	1.6	15	LC
M9AQYQ	75.5	69.2	66.9	58.4 *	67.5	-1.42	2.9	7.1 H	71.3	-0.71	3.5	4.8 H	16	LZ
PDHQB8	68.9	63.7 *	66.7	65.7	66.2	-1.79	2.5	2.1	68.2	-2.14 *	2.8	2.4	12	MB
V6Q2FE	No Data	73.5	73.0	72.9	73.1	0.21	2.5	0.4 L	73.1	0.16	2.2	0.4 L	15	LD
VZCNC7	77.7 H	77.2	77.8	77.2	77.4	1.46	2.7	0.3 L	73.4	0.27	2.8	3.8	16	XX

Consensus (All Labs) Results

Wk Mean	73.52	71.62	72.29	72.23	**Month Mean**	72.40	
Avg SDr	2.34	2.47	3.13	2.34	**Avg SDr**	2.59	
SD btwn Labs	2.69	3.67	3.66	6.17	**SD btwn Labs**	3.44	
Labs Incld	9	10	10	10	**SD btwn Wks**	2.79	
Labs Excld	0	0	0	0	**Labs Incld**	10	
Labs not rcvd	1	0	0	0			

Grand Mean results:

Grand Mean	72.80
Avg SDr	2.77
SD btwn Labs	2.13
SD btwn Wks	2.87
Labs Incld	10

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

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

(MB) - Messmer Buchel K440

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

(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
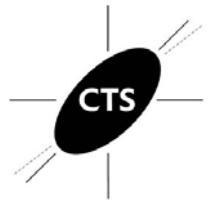
	Weekly Means				Monthly Results				Cumulative Results					
WebCode	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2F8YKK	46.5	46.6	46.7	45.4	46.3	0.84	3.6	0.6	46.3	0.86	3.3	1.2	16	LZ
2VYWLF	50.1	49.4	48.9	No Data	49.5	1.79	2.0	0.6	49.3	1.82	2.3	0.9	7	LZ
4388RB	40.0	43.6	40.0	41.6	41.3	-0.66	2.3	1.7	41.8	-0.60	2.2	2.1	13	LC
8CHM42	43.8	43.0	42.8	42.6 H	43.0	-0.14	2.9	0.5	43.8	0.04	2.7	1.6	12	LD
99JJYZ	44.8	45.9	43.2	45.4	44.8	0.39	2.7	1.2	44.9	0.41	2.3	0.9	16	LD
9QFAR9	41.0 L	41.6	40.2	40.7	40.9	-0.79	2.0	0.6	40.8	-0.91	2.0	0.9	16	LC
A2DG3X	48.5	47.6	45.4	47.9	47.4	1.16	2.3	1.4	48.1	1.44	2.5	1.3	16	LZ
G6B2FW	38.1	No Data	No Data	No Data	38.1	-1.63	1.5	0.0 L	42.3	-0.44	2.5	2.2	6	EM
GXXBRJ	43.1	42.6	42.7	42.7	42.8	-0.22	1.6	0.2	41.1	-0.82	1.8	1.1	16	TH
HBUTVN	43.5	42.4	43.6	43.6	43.3	-0.07	1.4	0.6	41.8	-0.59	1.4	1.9	16	WK
KFY9HG	41.4	41.0	45.7	43.6	42.9	-0.18	2.4	2.2	42.9	-0.23	2.7	2.5	16	LZ
NXAF7A	44.1	44.4	42.5	43.5	43.6	0.04	2.2	0.8	45.2	0.51	2.5	1.5	16	XX
P48BHE	45.2	46.5	47.5	47.3	46.6	0.93	1.7	1.1	46.5	0.91	2.2	1.0	8	LD
PDHQB8	36.3 *	36.9	36.3 *	36.2 X	36.4	-2.12 *	2.7	0.3	36.4	-2.34 *	2.4	1.3	12	MB
QNTHD8	43.3 H	40.2	41.2	42.8	41.9	-0.49	3.1	1.5	41.7	-0.63	2.7	0.8	16	LD
VBTGH8	49.0	47.6	46.5	48.3	47.8	1.30	2.9	1.1	44.9	0.40	3.9	6.0 H	8	XX
VEMBE9	48.2 L	48.4	47.6 L	46.6 L	47.7	1.26	1.1	0.8	48.2	1.47	1.2	0.6	16	LC
VJLLW3	41.1	39.6	40.2	42.4	40.8	-0.80	2.8	1.2	40.8	-0.91	2.7	1.6	16	LC
VZCNC7	43.5	40.2 H	43.0	44.5	42.8	-0.22	3.5	1.8	43.6	0.00	3.1	1.4	16	LC
Z2PPKA	42.8	41.0 H	41.8	43.3	42.2	-0.38	4.0	1.0	42.5	-0.37	3.7	0.8	16	LD

Consensus (All Labs) Results

Wk Mean	43.72	43.59	43.46	44.25	**Month Mean**	43.50	**Grand Mean**		43.65
Avg SDr	2.62	2.53	2.57	2.62	**Avg SDr**	2.56	**Avg SDr**		2.58
SD btwn Labs	3.59	3.47	3.21	2.25	**SD btwn Labs**	3.33	**SD btwn Labs**		3.09
Labs Incld	20	19	19	17	**SD btwn Wks**	1.13	**SD btwn Wks**		1.95
Labs Excld	0	0	0	1	**Labs Incld**	20	**Labs Incld**		20
Labs not rcvd	0	1	1	2					

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series	(LC) - L & W Crush Tester 48
(LD) - L&W Crush Tester 248	(LZ) - L & W Crush Tester (model not specified)
(MB) - Messmer Buchel K440	(TH) - TMI Compression Tester, Model 17-76
(WK) - Zwick Z005 Crush Tester	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM73
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
2QJ944	14.9	14.8	15.0	15.2	15.0	0.51	1.2	0.2	15.2	0.40	1.2	0.3	12	LW
8CHM42	15.4	14.8	14.9	15.0	15.0	0.54	1.1	0.2	15.3	0.59	1.1	0.6	12	LZ
8TB9T2	14.7	15.1	15.3	15.0	15.0	0.55	1.2	0.2	15.2	0.46	1.2	0.6	12	LW
9QFAR9	13.4	13.2 **X**	13.1 *	14.0	13.4	-2.43 *	1.2	0.4	13.9	-1.58	1.1	0.5	16	LB
A2DG3X	15.4	15.3	16.1	15.1	15.5	1.40	1.1	0.5	15.3	0.64	1.2	0.4	16	LZ
ACXJT7	14.8	15.0	15.1	14.6	14.9	0.26	1.2	0.2	14.8	-0.18	1.1	0.2	16	LB
B3JC72	15.0	15.1	14.9	14.6	14.9	0.28	1.2	0.2	14.8	-0.14	1.1	0.2	16	LB
CLFYA6	13.5	14.4	14.7	15.1	14.4	-0.58	1.1	0.7	14.0	-1.39	1.1	0.7	16	LB
FTZDJR	14.1	14.3	14.0	14.2	14.1	-1.09	0.8	0.1	14.5	-0.67	0.8	0.3	16	TT
GJBZ3T	14.6	15.0	14.4	14.7	14.7	-0.08	1.3	0.3	14.8	-0.22	1.4	0.2	16	LW
KFY9HG	15.2	14.4	15.4	14.7	14.9	0.42	1.0	0.4	14.9	-0.03	1.1	0.7	16	LA
P3VRHG	13.6	14.2	13.9	13.8 *	13.8	-1.64	1.1	0.3	13.7	-1.84	1.1	0.3	16	LU
P48BHE	15.0	14.6	14.3	14.6	14.6	-0.16	1.2	0.3	14.9	-0.05	1.2	0.4	8	LA
RYV3CU	15.4 **L**	15.3 **L**	15.7 **L**	14.8 **L**	15.3	1.11	0.2	0.4	15.5	0.95	0.2	0.4	16	BK
VBTGH8	25.5 **XL**	15.3 **L**	15.3 **L**	15.4 **L**	17.9	5.84 **X**	0.1	5.1 **H**	16.4	2.30 *	0.0	3.7 **H**	8	XX
VEMBE9	14.4	14.8	15.6	15.4	15.1	0.64	0.7	0.6	15.2	0.41	0.8	0.7	16	XX
VZCNC7	15.2	14.8	14.8	14.7	14.9	0.28	1.1	0.2	15.1	0.35	1.1	0.2	16	LU

Consensus (All Labs) Results

	Week 1	Week 2	Week 3	Week 4				
Wk Mean	14.64	14.82	14.85	14.75	**Month Mean**	14.72	**Grand Mean**	14.91
Avg SDr	1.08	0.99	1.06	1.09	**Avg SDr**	1.08	**Avg SDr**	1.05
SD btwn Labs	0.69	0.36	0.75	0.46	**SD btwn Labs**	0.54	**SD btwn Labs**	0.64
Labs Incld	16	16	17	17	**SD btwn Wks**	0.35	**SD btwn Wks**	1.00
Labs Excld	1	1	0	0	**Labs Incld**	16	**Labs Incld**	17
Labs not rcvd	0	0	0	0				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

(LB) - L & W Model 152

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

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

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

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

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