



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #539 (J) - August 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

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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Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

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

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

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
36# Linerboard	36Z1 36Z2	June 2010 - December 2011 February 2012 -
42# Linerboard	42B2 42B3	June 2012 - April 2013 June 2013 -
69# Linerboard	69A2 69C1	January 2013 - September 2013 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 Excl - 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.

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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:

Flag

Explanation

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

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

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

Flags assigned to Weekly Means:

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

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
34ZE2W	815.6	0.81	71.6	788.6	0.46	80.4	4	LS
4R4QKM	840.3	1.27	34.5	824.8	1.44	29.7	4	LN
6PDJ3C	756.8	-0.30	73.5	756.8	-0.40	73.5	1	ER
6X9PUR	725.4	-0.90	11.2	732.1	-1.07	42.5	4	LG
8G9NVN	702.5	-1.33	74.8	763.3	-0.22	88.3	3	EX
CU2RAP	811.0	0.72	20.7	770.3	-0.04	48.9	3	ES
DABXXT	796.4	0.44	34.8	786.2	0.40	35.3	3	LG
JB3RF6	780.0	0.13	53.4	784.1	0.34	63.0	4	LL
KVLG33	826.6	1.01	19.5	791.8	0.55	14.0	4	TE
LGPE8G	748.2	-0.47	38.7	745.8	-0.70	53.1	4	ER
LXBZPL	850.0	1.46	20.4	852.9	2.20*	26.1	4	LM
NGAAD8	745.0	-0.53	29.7	740.3	-0.85	30.2	3	TO
NHQ778	652.6	-2.28*	46.4	699.5	-1.96	52.3	4	LH
RTXC9C	830.9	1.10	55.0	823.3	1.40	44.7	4	ER
U24VLR	720.6	-0.99	26.2	735.7	-0.98	19.8	4	TB
UU3LDD	771.8	-0.02	66.2	794.7	0.63	55.0	4	LG
YBU2PZ	819.7	0.88	50.9	757.3	-0.39	46.9	4	ER
YTRBPW	747.2	-0.49	43.6	749.4	-0.60	30.1	4	LG
Z3EN4M	745.3	-0.52	55.9	763.5	-0.22	50.2	4	LL

Consensus (All Labs) Results

Month Mean	772.94	Grand Mean	771.59
Avg SDr	47.54	Avg SDr	50.44
SD btwn Labs	52.85	SD btwn Labs	36.86
Labs Incd	19	Labs Incd	19

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	786.85	30.62	13.91	5
Clip sealing	767.04	59.95	5.90	12
Tape sealing	773.59	74.94	0.65	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

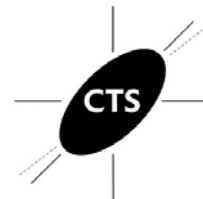
(LG) - TLS / L.A.B. Validator Series

(LL) - Lansmont 76-5K

(LN) - Lansmont 152-50k

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

(TO) - Tinius Olsen Model not specified



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
2A8JEQ	37.1	-0.36	1.0	38.6	-0.16	1.0	3	WK
34ZE2W	39.1	0.43	1.8	39.3	0.15	1.5	4	LC
4R4QKM	41.3	1.30	1.0	41.2	1.07	1.8	4	EN
BDE2QP	35.9	-0.84	3.2	38.5	-0.22	4.0	4	TD
DABXXT	40.6	1.02	4.5	42.2	1.52	3.2	3	LC
V4JNBY	37.8	-0.11	1.6	36.3	-1.26	1.2	4	LC
X73JP4	38.9	0.33	2.4	39.5	0.24	1.7	4	TB
ZC3K6N	33.6	-1.77	2.6	36.1	-1.34	2.5	4	XX

Consensus (All Labs) Results			
Month Mean	38.05	Grand Mean	38.96
Avg SDr	2.51	Avg SDr	2.32
SD btwn Labs	2.53	SD btwn Labs	2.13
Labs Incd	8	Labs Incd	8

Instrument Code List as Reported by the Labs

(EN) - Emerson 2200

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

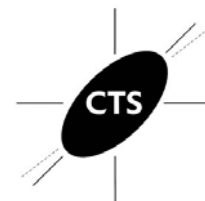
(WK) - Zwick Z005 Crush Tester

(LC) - L&W Crush Tester 48

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

(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
34ZE2W	42.3	0.15	0.9	42.3	0.29	1.4	4	LC
4R4QKM	44.2	1.28	1.8	43.4	0.92	1.5	4	EN
6PDJ3C	41.9	-0.08	1.2	41.9	0.01	1.2	1	TD
6X9PUR	41.3	-0.44	1.0	40.1	-1.03	1.6	3	TB
6YKE4W	43.8	1.04	1.1	43.7	1.08	1.0	4	LD
8G9NVN	40.3	-0.97	1.3	41.0	-0.52	1.4	4	TL
9XQ6BP	41.7	-0.18	0.7	38.7	-1.87	0.7	3	LC
B3JNTE	39.5	-1.49	0.6	41.2	-0.42	0.9	4	LC
CU2RAP	43.7	0.96	1.5	44.0	1.29	1.5	4	LD
DABXXT	41.2	-0.50	2.7	43.0	0.70	1.9	3	LC
EW77PU	43.0	0.56	2.0	43.3	0.87	1.5	4	LD
GYRRG	43.2	0.68	1.3	42.3	0.26	1.3	4	LC
H8QM46	33.8	-4.77 X	2.1	39.4	-1.43	1.4	3	TB
HUG7VE	41.6	-0.22	1.2	40.4	-0.86	1.4	4	TK
JB8C49	42.0	0.00	1.2	42.1	0.15	1.4	4	EX
JF77VF	40.7	-0.78	2.8	39.8	-1.19	2.3	4	LD
LGPE8G	44.6	1.50	1.4	43.6	1.04	1.7	4	LD
LXBZPL	41.3	-0.39	1.1	41.7	-0.07	1.4	4	EM
MC8LLF	80.3	22.27 X	4.7	83.7	24.72 X	4.7	2	LC
NHQ778	37.8	-2.46 *	1.4	39.0	-1.68	2.1	4	EM
QMDUEA	43.2	0.69	0.9	43.0	0.66	1.1	4	TG
RTXC9C	40.8	-0.72	0.9	40.5	-0.82	1.0	4	EM
T6NGZ9	43.6	0.93	1.1	43.7	1.10	1.5	4	XX
V4JNBY	41.7	-0.20	0.7	40.5	-0.79	0.9	4	LC
X3PLJ2	44.9	1.66	1.5	44.9	1.78	1.5	1	LC
X73JP4	42.2	0.12	1.6	42.2	0.19	1.4	4	TG
YBCYYR	43.0	0.58	1.9	44.0	1.29	1.3	4	CT
YBU2PZ	42.5	0.28	1.5	42.4	0.33	1.8	4	EN
YTRBPW	38.3	-2.17 *	3.2	39.6	-1.36	2.5	4	EM
Z3EN4M	42.3	0.17	2.0	42.0	0.07	1.4	4	BU

Consensus (All Labs) Results

Month Mean	42.01	Grand Mean	41.86
Avg SDr	1.57	Avg SDr	1.50
SD btwn Labs	1.72	SD btwn Labs	1.69
Labs Incl	28	Labs Incl	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	(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
(TD) - TMI Digital Crush Tester, Model 17-09	(TG) - TMI Digital Crush Tester, 17-76
(TK) - TLS Compression Tester, Model 5184	(TL) - Tech-Lab Systems Compression
(XX) - Instrument make/model not specified by lab	



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2H68E3	100.7	100.2	98.8	98.5	99.6	-0.98	11.2	1.1	100.0	-1.29	9.1	2.2	16	LA
34ZE2W	102.6	105.1	101.5	103.6	103.2	-0.10	11.0	1.5	105.7	0.50	10.7	3.0	15	AH
3HLKG7	112.6	115.5*	107.8	107.1	110.7	1.74	11.9	4.0	108.3	1.29	9.5	6.7 H	16	LA
48DC8Y	104.8	109.9	109.0	109.5	108.3	1.14	11.7	2.3	106.7	0.82	10.7	2.8	8	LC
4C99U4	104.2	104.9	104.2	100.7	103.5	-0.02	10.4	1.9	103.5	-0.20	9.2	1.5	12	LC
68TVQV	90.5*L	104.6	104.0 L	98.1	99.3	-1.05	7.4	6.6	102.5	-0.52	7.5	4.8	16	LC
6X9PUR	100.9	100.0	95.2	100.8	99.2	-1.06	11.5	2.7	99.5	-1.42	10.1	3.2	15	LA
72HH73	107.4	102.7	105.7	103.2	104.8	0.29	11.2	2.2	104.7	0.17	9.8	2.4	16	LZ
7RDBQ3	111.0 L	106.5 L	102.5	105.1	106.3	0.66	4.2	3.6	106.6	0.79	8.1	3.7	16	LA
8NTPDL	107.0	105.0 L	No Data	No Data	106.0	0.58	4.3	1.4	108.2	1.28	4.9	1.8	12	XX
9H2Y4V	117.0*L	116.5*L	116.4*L	117.3*L	116.8	3.21 X	2.5	0.4 L	115.6	3.57 X	6.7	3.2	16	LA
9UBFCL	97.2	100.8	91.3*	98.4	96.9	-1.62	6.2	4.0	97.5	-2.05*	8.3	4.5	16	XX
A6RLLV	112.3	105.3	106.9	109.5 L	108.5	1.19	6.1	3.1	108.8	1.45	7.3	2.1	16	LA
AGPF4Y	105.9	112.1 L	115.2*	113.8	111.8	1.98	9.3	4.1	110.0	1.84	8.4	3.3	16	TB
BAZEZQ	112.6	No Data	112.6	109.8	111.7	1.97	9.5	1.6	110.4	1.95	10.6	2.9	15	TB
BFLGXV	104.0	106.9	104.3	102.9	104.5	0.22	9.7	1.7	103.2	-0.27	9.9	1.9	16	LA
CC7YNR	108.1	103.3	102.8	110.5	106.2	0.63	9.2	3.7	105.7	0.50	10.2	3.2	16	LC
CDCKCR	103.0	98.4	101.9	110.4	103.4	-0.05	9.9	5.0	101.1	-0.95	10.8	3.5	16	LA
CDG4YU	107.2	103.1	108.4	103.1	105.4	0.45	11.8	2.8	108.1	1.24	10.0	3.1	16	LC
CU2RAP	108.8	104.5	105.7	111.7	107.7	0.99	10.5	3.2	105.8	0.51	10.7	3.1	16	LA
CWBM8A	103.7	96.1	98.8	103.1	100.4	-0.78	8.7	3.6	100.3	-1.20	8.6	5.3	12	LC
D2XWRT	105.5	106.0	90.9*	86.3 X	97.2	-1.57	10.6	10.1 H	104.5	0.11	11.1	11.5 H	14	TB
D794VH	102.8	102.5	99.2	105.1	102.4	-0.29	9.9	2.4	101.9	-0.69	9.6	3.3	16	LJ
DABXXT	105.5 H	105.1	106.1	No Data	105.6	0.48	12.3	0.5 L	107.1	0.93	11.3	2.4	14	LZ
DMUPF9	98.6	100.0	100.6	97.4	99.2	-1.08	7.4	1.4	102.1	-0.62	5.9	3.9	12	RE
ER7XER	103.6	103.3	96.1	102.6	101.4	-0.53	12.7	3.6	102.4	-0.54	9.8	2.7	16	LC
EW77PU	118.2*	123.2 X	122.6 X	111.3	118.8	3.70 X	10.9	5.5	111.0	2.14*	7.9	6.0	16	TB
FXQF8U	103.9	97.4	110.4	99.6	102.8	-0.19	11.7	5.7	103.7	-0.13	11.2	3.3	16	AH
GHUDET	103.5	99.8	105.6	101.6	102.6	-0.24	11.0	2.5	103.2	-0.27	10.7	3.0	16	AX
JDC27G	104.7	106.8	106.0	102.0	104.9	0.31	10.0	2.1	104.4	0.10	10.0	2.6	16	LC
JEPPPG	97.7	98.7	100.7	109.7	101.7	-0.46	10.4	5.4	101.0	-0.97	9.7	3.9	15	LC
JJF7VF	102.3	105.5	103.2	102.3	103.3	-0.07	9.6	1.5	104.8	0.21	9.6	2.3	15	AA
JYAL4M	110.2	103.6	107.1	106.6	106.9	0.80	8.3	2.7	104.1	0.00	9.6	3.3	16	LA
KH22XH	102.6	113.4*	107.8	102.9	106.7	0.74	9.5	5.1	109.6	1.71	9.7	5.3	8	LA
KVLG33	No Data	No Data	102.6 L	101.5 L	102.1	-0.38	1.5	0.8	101.3	-0.87	2.0	1.5	8	AH



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
LGPE8G	100.5	104.5	100.4	95.7	100.3	-0.81	10.6	3.6	101.0	-0.97	10.3	2.4	16	AH
LR3LZA	102.4	99.4 L	104.8	105.3 L	103.0	-0.15	4.7	2.7	101.7	-0.74	4.0	1.7	16	XX
LXBZPL	96.0 L	99.4	102.3	102.8	100.1	-0.84	6.9	3.1	101.2	-0.91	7.2	3.0	16	AH
MBU2KJ	107.3	104.1	106.8	110.7	107.2	0.88	7.5	2.7	106.1	0.62	7.2	2.0	16	AH
MC8LLF	106.0	105.5	105.8	97.2	103.6	0.01	11.6	4.3	105.1	0.30	11.0	4.8	8	LA
MLUGMG	103.8	106.9	107.8	105.3	106.0	0.58	10.5	1.8	106.0	0.60	10.4	2.1	16	LZ
NW7J6K	100.7	102.7	98.3	100.5	100.6	-0.74	10.2	1.8	102.6	-0.48	10.0	3.3	16	TB
QCEWUV	106.1	104.8	103.1	105.0	104.8	0.28	5.2	1.2	104.5	0.11	6.3	1.5	16	TB
QCV7NG	97.2	105.3	75.3 X	95.8	93.4	-2.48*	8.5	12.8 H	100.1	-1.24	9.5	7.4 H	16	LA
RG6TT7	108.1	101.2	103.1	109.3	105.4	0.44	11.5	3.9	105.0	0.27	10.4	3.4	16	LJ
T6NGZ9	95.2	95.2	97.3	95.2	95.7	-1.91	8.9	1.0	96.0	-2.52*	9.7	2.2	16	LA
UU3LDD	104.5	106.7	105.9	104.1 H	105.3	0.41	9.9	1.2	105.2	0.33	9.5	1.9	16	AH
W4J6NN	106.6	104.2	103.1	104.6	104.6	0.25	6.3	1.5	104.2	0.03	5.7	1.3	16	AH
WHJPMZ	100.5	102.8	103.2	103.6	102.5	-0.26	9.6	1.4	103.9	-0.06	11.0	3.9	16	LC
X8DG67	98.1	95.3 L	98.1	95.2	96.7	-1.68	7.9	1.6	103.9	-0.05	7.9	4.9	16	LC
XXBYU4	104.8	103.2	103.7	100.8	103.1	-0.12	10.5	1.7	102.9	-0.38	10.8	2.4	16	AH
Y9NQPQ	112.5	113.1	112.4	114.2	113.1	2.30*	9.4	0.8	116.8	3.96 X	10.1	6.0	16	AH
YBCYYR	108.4 H	103.7	104.3	100.4	104.2	0.15	14.1	3.3	102.8	-0.40	13.7	5.1	16	XX

Consensus (All Labs) Results

Wk Mean	104.60	104.03	103.79	104.11	Month Mean	103.60	Grand Mean	104.12
Avg SDr	9.60	9.76	9.71	9.37	Avg SDr	9.63	Avg SDr	9.39
SD btwn Labs	5.35	4.67	5.19	5.29	SD btwn Labs	4.11	SD btwn Labs	3.21
Labs Includ	52	50	50	50	SD btwn Wks	3.74	SD btwn Wks	3.83
Labs Exclud	0	1	2	1	Labs Includ	51	Labs Includ	51
Labs not rcvd	1	2	1	2				

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 207

Bursting Strength (Mullen), 36 lb Linerboard - 36Z2

TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2H68E3	76.9	72.8	74.3	77.1	75.3	-1.18	4.1	2.0	75.0	-1.93	5.1	1.4	12	LA
34ZE2W	79.0	80.6	79.9	82.3	80.5	0.56	5.8	1.4	77.5	-0.76	6.0	3.1	12	AH
3HLKG7	82.3	81.1	83.4	82.2	82.2	1.17	5.2	0.9	79.1	0.01	5.1	6.0 H	12	LA
48DC8Y	81.0	78.8	78.6	79.9	79.6	0.27	5.6	1.1	78.8	-0.10	5.7	1.9	12	XX
4C99U4	80.1	77.4	78.4	79.1	78.7	-0.01	4.5	1.1	78.2	-0.43	5.6	1.2	12	LC
68TVQV	76.1	78.4	81.7	78.2	78.6	-0.06	5.0	2.3	80.2	0.54	4.6	3.8	12	LC
6X9PUR	76.8	75.9	74.0	77.3	76.0	-0.93	5.5	1.5	76.4	-1.25	4.8	1.7	12	LA
72HH73	82.7	82.7	83.3	78.2	81.7	1.00	5.9	2.4	79.4	0.17	6.1	3.0	8	LZ
7RDBQ3	80.3	80.0 L	79.6	80.6	80.1	0.45	2.9	0.4	80.5	0.69	4.0	1.4	11	LA
8NTPDL	85.5 *	84.2	No Data	No Data	84.9	2.05 *	2.8	0.9	83.4	2.11 *	4.1	1.6	10	XX
9H2Y4V	80.3	80.6	79.6 L	79.3	80.0	0.40	3.3	0.6	82.7	1.76	4.0	2.3	12	LA
9UBFCL	79.0	74.7	79.8	74.6	77.0	-0.59	4.7	2.8	77.4	-0.80	4.8	2.1	12	XX
A6RLLV	80.9	79.8	81.6	79.3	80.4	0.55	3.8	1.0	79.9	0.40	4.0	0.9	8	LA
AGPF4Y	87.1 *	89.8 X	90.7 X	87.2 *	88.7	3.35 X	5.4	1.8	88.9	4.75 X	5.8	1.6	12	TB
BAZEZQ	88.0 X	No Data	83.5	86.3 *	85.9	2.42 *	5.0	2.3	85.6	3.17 X	6.0	2.0	10	TB
BFLGXV	77.0	80.7	80.0	79.6	79.3	0.18	5.6	1.6	77.9	-0.55	5.1	2.1	12	LA
CC7YNR	81.5	75.0	80.1	79.3	79.0	0.07	6.0	2.8	79.8	0.37	6.8	4.6 H	12	LC
CDCKCR	77.1	76.6	78.6	81.4	78.4	-0.12	6.0	2.1	77.4	-0.78	5.3	1.7	12	LA
CDG4YU	80.6	83.9	82.9	79.9	81.8	1.03	5.7	1.9	83.5	2.13 *	5.6	2.1	12	LC
CU2RAP	78.6	79.4	79.6	82.2	80.0	0.40	5.3	1.6	80.0	0.45	5.5	2.1	12	LA
CWBM8A	78.7	74.3	74.8	77.6	76.3	-0.82	5.2	2.1	76.0	-1.47	4.7	2.7	12	LC
D2XWRT	79.6	81.2	68.3 X	69.0 *	74.5	-1.44	5.5	6.9 H	79.0	0.00	5.9	6.8 H	10	TB
D794VH	76.7	78.1	79.0	77.8	77.9	-0.30	6.1	0.9	79.3	0.15	5.5	2.2	12	LJ
DABXXT	79.8	84.7 *	80.2	No Data	81.6	0.94	5.2	2.7	82.3	1.57	5.2	2.7	10	LZ
DMUPF9	81.8	80.8	83.8	82.2	82.2	1.14	4.4	1.2	81.1	1.01	4.1	1.5	12	RE
ER7XER	76.7	78.0	73.5	76.5	76.2	-0.88	5.5	1.9	77.8	-0.59	5.2	2.9	12	LC
EW77PU	83.2	92.2 X	85.7 *	83.9	86.3	2.52 *	5.4	4.1	81.9	1.36	4.3	4.0	12	TB
FXQF8U	76.8	78.1	78.8	81.6	78.8	0.02	4.7	2.0	77.4	-0.81	4.5	1.8	12	AH
GHUDET	77.6	80.0	74.8	72.9	76.3	-0.83	4.6	3.1	77.5	-0.75	4.6	2.3	12	AX
JDC27G	81.0	79.3	80.8	81.1	80.6	0.60	6.3	0.8	78.9	-0.08	5.4	2.5	11	LC
JEPPPG	72.8	78.5	75.6	78.5	76.3	-0.82	4.9	2.7	75.8	-1.55	5.6	2.0	12	LC
JJF7VF	78.2	78.0	81.4	81.4	79.8	0.33	6.0	1.9	81.9	1.36	5.5	2.6	12	AA
JYAL4M	80.0	80.4	77.3	76.8	78.6	-0.05	4.9	1.8	79.3	0.14	5.7	2.1	12	LA
KH22XH	81.3	79.5 H	80.5	80.8	80.5	0.60	6.4	0.8	81.6	1.23	6.3	3.6	12	LA
KVLG33	No Data	No Data	79.3 L	80.7	80.0	0.41	2.3	1.0	80.1	0.51	3.0	0.6	6	AH

Containerboard Interlaboratory Testing Program
Analysis 207

Bursting Strength (Mullen), 36 lb Linerboard - 36Z2
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
LGPE8G	76.3	78.2	79.7	73.0	76.8	-0.67	5.1	2.9	78.0	-0.48	5.7	2.5	12	AH
LR3LZA	80.1	80.5	80.5	80.8	80.5	0.57	3.5	0.3 L	79.0	-0.04	2.6	1.2	12	XX
LXBZPL	76.7	74.7 L	76.2	80.4	77.0	-0.60	2.7	2.4	77.9	-0.53	3.4	1.7	12	AH
MBU2KJ	74.9 L	75.9 L	75.7 L	75.7 L	75.5	-1.09	1.8	0.4	76.3	-1.33	2.7	1.0	12	AH
MC8LLF	79.2	75.5	78.2	80.7	78.4	-0.13	6.3	2.2	82.0	1.44	6.9	8.2 H	12	LA
MLUGMG	77.3	77.6	78.4	76.0	77.3	-0.49	5.2	1.0	78.6	-0.22	5.1	1.6	12	LZ
NW7J6K	76.2	75.6	78.6	76.5	76.7	-0.69	5.1	1.3	77.9	-0.55	5.8	1.4	12	TB
QCEWUV	80.4	79.4	80.1 L	80.6	80.1	0.46	3.6	0.5	80.0	0.48	4.5	1.0	12	TB
QCV7NG	75.4	76.1	78.7	74.8	76.3	-0.85	6.4	1.7	76.7	-1.15	5.9	1.3	12	LA
RG6TT7	76.9	75.8	72.8 *	77.2	75.7	-1.05	4.7	2.0	75.9	-1.51	4.9	1.2	12	LJ
T6NGZ9	71.3 *	70.7 *	75.4	71.5 *	72.2	-2.21 *	5.4	2.1	72.3	-3.25 X	5.2	1.9	12	LA
UU3LDD	81.3	80.5	80.7	80.4	80.7	0.66	6.1	0.4	80.0	0.48	6.2	1.2	12	AH
W4J6NN	80.0	79.8	78.7 L	79.7	79.6	0.26	3.3	0.6	80.0	0.44	3.5	0.7	12	AH
WHJPMZ	80.0	80.4	76.8	74.8	78.0	-0.26	5.7	2.7	78.0	-0.50	5.3	1.9	12	LC
X8DG67	74.9	75.6	76.7	78.4	76.4	-0.81	4.6	1.5	76.9	-1.04	4.8	2.4	12	LC
XXBYU4	78.4	78.1	78.0	76.8	77.8	-0.32	5.5	0.7	77.7	-0.67	5.6	1.3	12	AH
Y9NQPQ	79.1	81.3	82.0	82.8	81.3	0.85	6.7	1.6	81.2	1.04	5.9	3.2	12	AH
YBCYYR	70.7 *	68.7 X	73.4	70.8 *	70.9	-2.66 *	6.9	1.9	70.1	-4.30 X	7.5	2.2	12	XX

Consensus (All Labs) Results

Wk Mean	78.75	78.52	78.90	78.73	Month Mean	78.78	Grand Mean	79.04
Avg SDr	4.82	5.50	5.22	4.96	Avg SDr	5.11	Avg SDr	5.12
SD btwn Labs	3.11	2.90	2.96	3.61	SD btwn Labs	2.96	SD btwn Labs	2.07
Labs Includ	51	48	50	51	SD btwn Wks	2.07	SD btwn Wks	2.77
Labs Exclud	1	3	2	0	Labs Includ	52	Labs Includ	49
Labs not rcvd	1	2	1	2				

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



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
2H68E3	101.8	102.1	No Data	No Data	102.0	0.33	5.1	0.2 L	99.9	-0.05	4.0	1.3	14	LC
34ZE2W	99.2	99.8	101.3	99.8	100.0	-0.11	4.6	0.9	100.1	-0.01	3.8	1.0	16	LC
3HLKG7	100.0	101.3	107.3	99.8	102.1	0.35	3.6	3.5	100.1	-0.01	3.9	2.9	16	LZ
4C99U4	97.1	102.8 H	24.3 X	93.4 H	79.4	-4.73 X	8.3	37.0 H	92.9	-1.58	8.0	21.7 H	12	LA
72HH73	94.3	98.8	94.7	95.3	95.8	-1.07	4.4	2.1	97.7	-0.53	4.2	2.3	16	LC
7RDBQ3	101.4	99.0	97.1	99.3	99.2	-0.29	3.1	1.8	99.4	-0.16	3.3	2.4	16	LD
8NTPDL	108.4	101.0	No Data	No Data	104.7	0.94	4.7	5.2	102.0	0.42	4.5	4.5	12	XX
9H2Y4V	109.2	110.9 *L	No Data	112.1 *	110.7	2.29 *	2.3	1.5	110.0	2.17 *	2.7	2.8	15	LD
9UBFCL	106.7	105.3	105.6	104.2	105.5	1.11	4.6	1.1	106.0	1.30	4.8	2.5	16	LZ
A6RLLV	100.9	101.2 L	101.5	101.4 L	101.3	0.17	1.7	0.3 L	101.6	0.32	2.4	0.5 L	16	LZ
AGPF4Y	116.0 X	113.4 X	109.1	93.4	108.0	1.67	3.5	10.1 H	108.9	1.93	4.5	4.8	16	LX
BAZEZQ	99.2	No Data	92.9	99.3	97.1	-0.76	4.0	3.7	96.6	-0.78	3.8	3.6	15	LC
BDE2QP	93.6	93.3	93.4	93.9	93.5	-1.57	2.5	0.3 L	95.0	-1.12	3.3	2.0	16	TD
BFLGXV	99.4	102.5	96.8	98.5	99.3	-0.27	4.1	2.4	101.1	0.23	3.8	2.1	16	LD
CC7YNR	103.3	102.7	105.8	104.0	104.0	0.77	4.5	1.3	106.4	1.38	4.2	2.2	16	LC
CWBM8A	105.0	100.4	100.7	106.1	103.0	0.57	3.8	2.9	101.0	0.20	3.9	3.4	12	LD
D2XWRT	101.6	100.8	82.2 XH	76.9 XH	90.4	-2.27 *	8.9	12.7 H	97.1	-0.66	7.2	12.1 H	14	LC
D794VH	102.0	101.7	100.8	97.3	100.4	-0.02	4.9	2.1	100.5	0.08	5.0	2.0	15	LD
DABXXT	98.7	101.6	98.9	No Data	99.7	-0.18	2.6	1.6	101.6	0.34	2.7	3.0	14	LC
DMUPF9	102.5	99.3	99.2 L	99.9	100.2	-0.07	2.6	1.5	102.8	0.59	3.1	2.5	12	LZ
ECRR6E	98.7	101.4	101.3	101.8	100.8	0.06	3.3	1.4	99.5	-0.14	3.8	2.1	16	LC
ER7XER	99.3	102.0	106.0	95.4	100.7	0.03	4.6	4.5	95.8	-0.94	3.9	5.6	16	LD
EW77PU	103.3	100.5	103.2 L	102.1	102.3	0.39	2.7	1.3	101.7	0.35	2.8	1.3	16	LD
FLWYKD	104.1	97.9	102.4	100.9	101.3	0.18	4.7	2.6	101.3	0.25	4.9	2.8	14	MB
FXQF8U	106.1	110.5 *	112.8 *	107.8	109.3	1.97	4.8	2.9	107.9	1.72	5.8	2.7	16	LC
G2P7ZQ	68.6 XH	73.6 X	No Data	No Data	71.1	-6.60 X	6.4	3.6	56.5	-9.55 X	4.3	6.7	14	MB
GHUDET	98.2	100.8	102.6 H	95.2 H	99.2	-0.30	6.1	3.2	102.3	0.48	5.0	4.1	16	LX
HUG7VE	99.7	99.3	98.5	97.9	98.8	-0.38	3.3	0.8	90.0	-2.21 *	3.0	7.6	12	MB
HUH47B	104.0	99.7	100.8	104.7	102.3	0.40	3.7	2.4	101.1	0.21	3.5	2.6	12	EM
JEPPPG	113.5 *	108.8	111.1 *H	110.0	110.8	2.31 *	5.7	2.0	110.7	2.31 *	5.4	2.7	14	LC
JJF7VF	99.1	98.5	97.4	98.7	98.4	-0.47	3.0	0.7	96.5	-0.78	2.9	1.5	15	LD
JYAL4M	102.5	104.2	107.0	106.7	105.1	1.03	3.5	2.1	96.1	-0.87	3.9	5.9	16	LC
KVLG33	102.7	101.3 L	101.1	101.5 L	101.6	0.25	2.4	0.7	100.7	0.12	2.3	1.1	16	LD
LGPE8G	100.0	96.4	98.1	95.3	97.5	-0.69	3.5	2.1	99.1	-0.21	3.7	2.5	16	LD
LR3LZA	101.6	102.8	101.8	102.0	102.1	0.35	2.8	0.5 L	103.7	0.78	3.0	2.3	16	XX



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
LXBZPL	97.0	100.8	100.1	100.9	99.7	-0.19	2.6	1.8	100.1	0.00	2.5	1.8	16	EM
MBU2KJ	103.8	97.1	100.6	101.1	100.7	0.03	3.8	2.8	101.0	0.19	4.0	2.1	16	LC
MC8LLF	98.8	99.1 H	98.9	98.2	98.8	-0.40	5.7	0.4 L	95.6	-0.98	7.5	3.6	8	LC
N7YG9M	92.7	96.9	93.9	97.0 L	95.1	-1.21	3.2	2.1	96.4	-0.80	3.7	2.2	12	XX
NHQ778	107.8	107.6	109.5 L	109.4	108.6	1.80	1.9	1.0	100.5	0.09	3.6	6.0	16	EM
NW7J6K	100.7	104.1	97.1	94.2	99.0	-0.33	4.1	4.3	99.6	-0.10	4.5	5.3	16	LZ
QCEWUV	99.9	100.5	99.6	99.8	100.0	-0.13	3.1	0.4 L	99.2	-0.21	2.9	0.7 L	16	TH
QCV7NG	97.3	103.4	100.9	105.1	101.7	0.26	4.3	3.4	98.5	-0.35	5.7	6.7	16	LC
QMDUEA	95.6	96.5	95.6	95.7	95.8	-1.05	3.0	0.5 L	97.1	-0.67	3.1	0.9	16	TH
QWF7UC	106.1	106.2	106.1	106.5	106.2	1.28	2.9	0.2 L	105.3	1.14	3.1	2.1	16	LD
RG6TT7	90.5*	90.9*	93.8	94.6	92.4	-1.81	4.9	2.0	91.0	-1.99	4.2	2.5	16	LC
RNL8WB	96.1	96.4	No Data	No Data	96.3	-0.96	5.0	0.2 L	99.1	-0.23	4.2	2.8	5	EX
RTXC9C	93.5	93.5	91.1	93.4	92.9	-1.71	3.4	1.2	93.1	-1.53	3.5	1.1	16	EX
T6NGZ9	92.0	98.6	96.1	91.5	94.6	-1.34	4.9	3.4	95.3	-1.05	4.0	2.5	16	LC
VH3BKX	99.4	95.0	101.1	101.6	99.3	-0.28	4.1	3.0	98.8	-0.28	5.0	3.6	16	LC
WHJPMZ	104.9	107.0	101.1	105.6	104.7	0.93	3.9	2.5	105.6	1.20	4.4	2.7	16	TC
X8DG67	109.4	93.9	94.3	93.5	97.8	-0.61	3.7	7.8 H	97.4	-0.58	3.5	4.8	16	LC
XEG7ZT	101.0	100.4	98.8 H	107.5	101.9	0.31	5.7	3.8	106.2	1.33	5.7	10.1 H	12	XX
XXTB93	99.4	100.5 L	101.0 L	101.0 L	100.5	-0.01	1.9	0.8	100.7	0.13	3.2	1.8	16	LD
Y9NQPQ	100.7 H	105.1	104.4	104.7	103.7	0.72	7.3	2.0	108.1	1.74	5.2	3.5	16	LZ
YBU2PZ	95.1	101.4 L	99.8	97.9	98.5	-0.44	2.4	2.7	97.4	-0.58	3.5	2.3	16	EN
YTRBPW	90.8*	93.4	94.6	94.8	93.4	-1.60	3.1	1.8	92.9	-1.57	3.2	3.9	16	EM

Consensus (All Labs) Results														
Wk Mean	100.54	100.68	100.55	100.23	Month Mean	100.52			Grand Mean	100.11				
Avg SDr	3.96	4.16	4.19	4.13	Avg SDr	4.13			Avg SDr	4.23				
SD btwn Labs	4.81	4.19	4.87	4.99	SD btwn Labs	4.46			SD btwn Labs	4.57				
Labs Inclid	55	54	50	51	SD btwn Wks	3.29			SD btwn Wks	4.80				
Labs Exclid	2	2	2	1	Labs Inclid	55			Labs Inclid	56				
Labs not rcvd	0	1	5	5										



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	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
2H68E3	80.3	80.0	No Data	No Data	80.2	0.33	3.1	0.2 L	80.6	0.36	3.1	0.8	10	LC
34ZE2W	82.2	79.3	80.8	81.5	81.0	0.56	2.6	1.2	80.1	0.22	2.9	1.2	12	LC
3HLKG7	81.0	79.8	82.0	78.5	80.3	0.37	3.1	1.5	79.5	0.05	2.9	3.1	12	LZ
4C99U4	81.8 H	81.6	80.5	78.8	80.7	0.47	5.0	1.4	84.7	1.58	5.2	4.4	12	LA
72HH73	80.9	74.7	74.9	76.3	76.7	-0.66	3.2	2.9	77.0	-0.69	3.2	2.8	8	LC
7RDBQ3	78.7	78.2 L	78.7	78.5 L	78.5	-0.14	2.0	0.2 L	78.9	-0.15	2.7	1.8	11	LD
8NTPDL	84.0	77.5	No Data	No Data	80.8	0.50	2.7	4.6	78.7	-0.20	3.0	5.1	10	XX
9H2Y4V	86.9*	86.9*	87.9* L	87.3*	87.3	2.35*	1.6	0.5 L	85.4	1.80	1.8	2.4	12	LD
9UBFCL	87.0*	84.0	84.3	83.6	84.7	1.63	3.7	1.5	84.2	1.43	3.2	1.5	12	LZ
A6RLLV	80.5	80.0	80.1	80.0 L	80.2	0.33	1.9	0.2 L	80.2	0.27	2.0	0.3 L	8	LZ
AGPF4Y	93.3 X	88.4*	87.9*	73.2	85.7	1.91	3.4	8.7 H	85.2	1.74	3.7	4.7	12	LX
BAZEZQ	75.8 H	No Data	76.4	76.5	76.2	-0.80	4.3	0.4 L	75.3	-1.20	4.1	1.8	10	LC
BDE2QP	72.2*	74.8	72.2	74.1	73.3	-1.62	2.4	1.3	73.3	-1.80	2.8	2.0	12	TD
BFLGXV	77.7	76.6	77.5	79.8 L	77.9	-0.32	2.0	1.4	79.7	0.11	3.7	2.5	12	LD
CC7YNR	84.8	83.6	83.2	84.7	84.1	1.44	3.3	0.8	84.4	1.49	3.4	0.9	12	LC
CWBM8A	81.4	79.2	81.4	82.0	81.0	0.56	3.4	1.2	83.6	1.27	4.1	6.7 H	12	LD
D2XWRT	79.4	79.0	60.8 XH	60.2 XH	69.8	-2.61*	7.4	10.8 H	79.1	-0.07	5.0	10.3 H	10	LC
D794VH	79.7	78.2	80.6	77.7	79.1	0.01	3.3	1.3	79.0	-0.09	3.5	1.4	12	LD
DABXXT	79.4	81.4	80.3	No Data	80.4	0.39	2.1	1.0	80.9	0.47	2.4	1.2	10	LC
DMUPF9	77.2	79.3	78.1	77.6	78.1	-0.27	2.6	0.9	79.4	0.01	2.7	1.4	12	LZ
ECRR6E	77.7	76.7	76.6	73.5	76.1	-0.82	2.1	1.8	75.8	-1.03	2.6	3.2	12	LC
ER7XER	69.8 X	72.4	74.1	73.1 H	72.3	-1.90	3.7	1.8	77.5	-0.53	3.6	4.9	12	LD
EW77PU	80.7	81.9	83.5	83.0	82.3	0.93	2.9	1.3	82.4	0.91	2.6	1.1	12	LD
FLWYKD	80.3	76.0	77.0	77.8	77.8	-0.36	2.9	1.9	79.1	-0.06	2.8	2.5	12	MB
FXQF8U	83.5	82.1	77.3 H	84.5	81.8	0.81	4.2	3.2	82.2	0.83	3.3	2.1	12	LC
G2P7ZQ	62.0 X	57.0 X	No Data	No Data	59.5	-5.56 X	3.3	3.5	50.4	-8.55 X	3.3	9.4 H	10	MB
GHUDET	81.9	80.4	80.5 H	76.4	79.8	0.23	3.9	2.4	80.5	0.35	3.1	4.3	12	LX
HUG7VE	76.6	78.3	77.5	77.6	77.5	-0.43	2.3	0.7	73.5	-1.72	2.8	5.0	8	MB
HUH47B	79.9	81.7	82.5	80.1	81.1	0.58	3.1	1.3	80.5	0.36	3.0	1.0	12	EM
JEPPPG	93.8 XH	86.4	92.2 X	86.6	89.8	3.06 X	3.7	3.8	88.4	2.69*	4.5	3.0	12	LC
JJF7VF	79.5	79.6	78.2	77.3	78.7	-0.10	2.3	1.1	75.3	-1.18	3.8	4.6	12	LD
JYAL4M	84.4	84.6	85.2	85.4	84.9	1.68	2.6	0.5 L	79.7	0.10	2.7	4.1	12	LC
KVLG33	82.7	80.9	81.2	80.0 L	81.2	0.62	1.8	1.1	80.4	0.30	1.8	1.0	12	LD
LGPE8G	79.8	80.4	80.3	75.5	79.0	0.00	2.9	2.3	79.3	-0.01	2.3	1.6	12	LD
LR3LZA	81.9	82.8	82.9	82.3	82.4	0.98	2.2	0.4 L	83.4	1.20	2.6	1.4	12	XX

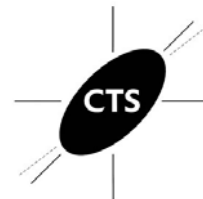
Containerboard Interlaboratory Testing Program
Analysis 217

Ring Crush, 36 lb Linerboard - 36Z2
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
LXBZPL	78.6	79.9	78.3 L	78.9	78.9	-0.03	1.8	0.7	79.5	0.04	2.0	1.3	12	EM
MBU2KJ	82.6	80.1	77.6	81.0	80.3	0.37	3.1	2.1	79.6	0.07	3.1	1.4	12	LC
MC8LLF	78.6 H	77.6 H	73.8	77.8	77.0	-0.59	4.5	2.1	72.6	-2.01*	7.3	7.2 H	12	LC
N7YG9M	76.9	78.0	73.8	73.6	75.6	-0.98	2.3	2.2	77.5	-0.55	2.4	2.2	12	XX
NHQ778	67.4 X	66.2 X	68.5*	69.2*H	67.8	-3.19 X	4.4	1.3	73.1	-1.86	3.5	6.7 H	12	EM
NW7J6K	81.8	82.4	73.7	76.5	78.6	-0.11	2.9	4.2	79.5	0.06	3.8	4.1	12	LZ
QCEWUV	80.7	80.9	80.1	80.5	80.5	0.43	2.7	0.4 L	79.3	0.00	2.8	1.1	12	TH
QCV7NG	79.5	81.5	83.9	80.0	81.2	0.63	2.8	2.0	80.2	0.24	4.0	4.1	12	LC
QMDUEA	75.2	74.2	75.1	73.9	74.6	-1.26	2.3	0.6	75.2	-1.23	2.2	0.9	12	TH
QWF7UC	83.7	82.3	85.6	82.2	83.5	1.27	2.0	1.6	82.9	1.04	2.5	1.3	12	LD
RG6TT7	77.4 L	73.3	78.5	80.5	77.4	-0.45	2.5	3.0	77.7	-0.48	2.4	1.9	12	LC
RNL8WB	76.3	79.6	No Data	No Data	78.0	-0.30	3.2	2.3	79.5	0.06	3.1	3.0	4	EX
RTXC9C	73.8	73.9	73.4	74.8	74.0	-1.43	2.9	0.6	74.8	-1.33	3.0	1.0	12	EX
T6NGZ9	77.5	77.9	79.1	73.8	77.1	-0.55	4.4	2.3	76.7	-0.77	4.1	2.6	12	LC
VH3BKX	75.0	74.3	76.1 H	75.8	75.3	-1.06	4.1	0.8	76.1	-0.96	3.5	2.9	11	LC
WHJPMZ	82.1	80.6	80.8	80.5	81.0	0.56	3.4	0.7	81.9	0.75	3.9	1.2	12	TC
X8DG67	92.7 X	72.1	73.8	72.4	77.8	-0.36	3.1	10.0 H	77.6	-0.50	2.8	5.5	12	LC
XEG7ZT	82.4	82.9	78.3	84.7	82.1	0.88	3.1	2.7	82.9	1.05	3.0	2.3	8	XX
XXTB93	79.8	76.9	77.0 L	81.5	78.8	-0.06	1.9	2.2	78.0	-0.39	2.6	1.5	11	LD
Y9NQPQ	76.7	75.2	75.5	75.0	75.6	-0.97	4.1	0.8	78.5	-0.23	5.5	5.1	12	LZ
YBU2PZ	77.7	78.1	74.9	79.7 L	77.6	-0.40	2.2	2.0	78.1	-0.36	2.3	1.6	12	EN
YTRBPW	72.9*	72.1	65.6 X	74.7	71.3	-2.19*	2.9	4.0	74.3	-1.48	3.0	4.7	12	EM

Consensus (All Labs) Results										
Wk Mean	79.78	79.27	78.82	78.63	Month Mean	79.01	Grand Mean	79.34		
Avg SDr	2.99	2.79	3.21	3.21	Avg SDr	3.16	Avg SDr	3.34		
SD btwn Labs	3.26	3.69	4.09	4.03	SD btwn Labs	3.51	SD btwn Labs	3.38		
Labs Inclid	51	54	50	51	SD btwn Wks	2.95	SD btwn Wks	3.46		
Labs Exclid	6	2	3	1	Labs Inclid	54	Labs Inclid	56		
Labs not rcvd	0	1	4	5						



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



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
2H68E3	23.6	25.0	24.5	25.0	24.5	-0.19	1.6	0.7	24.5	-0.32	1.9	0.5	16	LW
34ZE2W	24.7	24.8	25.1	25.1	24.9	0.12	1.7	0.2	24.9	0.02	1.9	0.5	16	LU
3HLKG7	25.4	23.6	24.7	24.1	24.4	-0.27	2.3	0.8	24.8	-0.01	2.3	0.7	15	LW
48DC8Y	25.9	24.0	24.8	26.1	25.2	0.31	1.8	1.0	25.3	0.37	1.7	1.0	8	XX
4C99U4	24.4 L	23.7 L	24.4 L	25.2 L	24.4	-0.30	0.4	0.6	24.9	0.06	0.5	1.0	12	LA
68TVQV	23.8 L	24.2 L	24.9 L	25.0 L	24.5	-0.26	0.4	0.6	24.2	-0.60	0.4	0.8	16	LA
6X9PUR	22.2	22.1	22.1	22.7	22.3	-1.97	2.0	0.3	22.7	-1.91	1.9	0.9	16	LU
72HH73	25.3	25.7	24.6	25.6	25.3	0.39	2.2	0.5	25.2	0.29	2.1	0.5	16	LW
BAZEZQ	24.7	No Data	25.5	25.3	25.2	0.29	1.9	0.4	24.8	-0.04	1.9	0.8	15	LW
CC7YNR	27.2 L	24.9 L	24.5 L	25.7 L	25.6	0.62	0.0	1.2	25.9	0.93	0.0	1.2	16	LA
CDCKCR	25.7	27.3	26.2	25.1	26.1	1.01	2.7	0.9	26.3	1.29	2.5	0.7	16	LW
CDG4YU	27.6	27.9*	27.7*	28.3*	27.9	2.43*	2.5	0.3	27.3	2.22*	2.4	1.0	16	LA
CWBM8A	25.2	23.6	24.8	24.9	24.6	-0.13	2.0	0.7	24.4	-0.38	2.1	0.8	12	LZ
D794VH	24.7	24.8	24.9	23.7	24.5	-0.20	2.1	0.6	24.7	-0.10	2.1	0.7	15	LU
DABXXT	24.1	24.5	24.7	No Data	24.4	-0.29	1.9	0.3	24.9	0.06	2.0	0.8	14	LW
ECRR6E	23.9	24.5	23.6	24.2	24.1	-0.57	1.9	0.4	23.4	-1.30	1.6	0.8	16	LU
ER7XER	25.0 L	25.7 L	24.6 L	24.7 L	25.0	0.17	0.5	0.5	24.9	0.02	0.5	1.0	16	LA
EW77PU	23.5	22.8	22.9	24.0	23.3	-1.15	1.4	0.6	23.9	-0.89	1.4	0.7	16	BK
F4UGA9	25.9	24.8	24.2	23.9	24.7	-0.04	1.9	0.9	24.6	-0.22	1.7	0.7	16	LY
FLWYKD	26.7 L	25.0 L	26.3 L	24.7 L	25.7	0.69	0.1	1.0	25.4	0.50	0.1	0.7	14	LA
FXQF8U	26.9	25.9	25.1	26.2	26.0	0.99	1.1	0.7	26.7	1.67	1.2	1.0	16	LY
G2P7ZQ	25.7 L	27.4*	27.0 L	27.3 L	26.9	1.64	0.7	0.8	26.8	1.79	0.7	2.1 H	16	BK
GHUDET	24.2	23.9	23.5	24.6	24.0	-0.58	1.9	0.5	23.2	-1.46	1.9	1.8 H	16	XX
JDC27G	22.6	25.3	26.3	26.6	25.2	0.32	1.7	1.8 H	26.2	1.23	2.2	1.2	16	LA
JEPPPG	24.1 L	24.8 L	25.1	24.1 L	24.5	-0.22	0.7	0.5	25.8	0.82	1.1	1.0	15	LA
JJF7VF	22.4	23.5	24.3	23.4	23.4	-1.11	2.0	0.8	22.9	-1.74	1.9	0.5	15	LW
JYAL4M	24.2	23.3	24.6	24.2	24.1	-0.56	2.0	0.6	24.1	-0.72	2.2	0.9	16	XX
KH22XH	26.7	26.8	26.2	27.5	26.8	1.59	1.6	0.5	26.3	1.33	1.5	1.1	8	LU
KVLG33	24.6	24.6	24.2	24.2	24.4	-0.29	1.9	0.2	24.6	-0.27	1.8	0.4	16	LY
LGPE8G	25.1	24.7	24.2	25.1	24.8	0.00	2.1	0.4	24.4	-0.38	1.9	0.5	16	LU
MBU2KJ	24.7	25.0	24.7	25.0	24.9	0.07	1.3	0.2	24.9	0.08	1.3	0.2	16	LW
MC8LLF	25.8	25.3	25.7	24.9	25.4	0.49	1.5	0.4	25.4	0.49	1.5	0.4	4	LU
MLUGMG	27.8*	25.8	25.4	26.3	26.3	1.21	2.3	1.1	26.3	1.34	2.2	1.0	16	LZ
N7YG9M	22.7	23.0	23.8	23.8	23.3	-1.14	1.9	0.6	23.9	-0.84	2.0	0.6	12	XX
NKC3FJ	23.8 L	23.4 L	22.1	22.2 L	22.8	-1.53	0.6	0.8	23.1	-1.57	0.6	1.2	16	LZ



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
NW7J6K	24.4	23.9	24.9	25.0	24.5	-0.19	1.7	0.5	24.2	-0.59	2.0	0.9	16	LZ
QCEWUV	24.8	24.6	24.3	24.8	24.6	-0.14	1.1	0.2	24.4	-0.44	1.1	0.3	16	TT
QCV7NG	22.8 L	21.8 *	25.3	24.0	23.5	-1.05	1.0	1.5	25.0	0.12	0.7	1.4	16	LZ
RNL8WB	25.0 L	23.7 L	No Data	No Data	24.3	-0.34	0.0	0.9	25.1	0.23	0.0	1.2	5	LA
T6NGZ9	24.8	24.8	24.3	21.7 *	23.9	-0.72	1.7	1.5	24.2	-0.60	2.2	1.2	16	LU
UU3LDD	24.7	23.7	23.6	23.7	23.9	-0.68	2.2	0.5	24.0	-0.72	2.3	0.5	16	LW
W4J6NN	24.4	24.6	24.5	24.5	24.5	-0.22	1.1	0.1 L	24.4	-0.39	1.1	0.3	16	TT
WHJPMZ	27.3 L	26.3 L	27.8 *L	29.2 XL	27.7	2.26 *	0.3	1.2	26.4	1.39	0.5	1.2	16	LA
X8DG67	23.6 L	24.0 L	21.7 *L	22.7 L	23.0	-1.42	0.5	1.1	24.4	-0.44	0.5	1.2	16	LA
XEG7ZT	27.4 L	27.0 L	27.0 L	27.8 *L	27.3	1.99	0.1	0.4	30.1	4.71 X	0.2	7.9 H	12	XX
XXBYU4	27.0	26.3	26.5	26.2	26.5	1.36	2.7	0.4	26.8	1.77	2.4	1.1	16	LU
YBU2PZ	23.0	21.9	22.0 *	22.3	22.3	-1.96	1.5	0.5	22.8	-1.81	1.9	0.7	16	LU
YTBGL2	24.0 L	24.2 L	24.1 L	24.7 L	24.2	-0.43	0.0	0.3	24.6	-0.23	0.0	0.6	16	LU

Consensus (All Labs) Results									
Wk Mean	24.87	24.64	24.74	24.79	Month Mean	24.78	Grand Mean	24.85	
Avg SDr	1.54	1.64	1.66	1.75	Avg SDr	1.65	Avg SDr	1.69	
SD btwn Labs	1.44	1.38	1.35	1.42	SD btwn Labs	1.27	SD btwn Labs	1.12	
Labs Includ	48	47	47	45	SD btwn Wks	0.74	SD btwn Wks	0.94	
Labs Exclud	0	0	0	1	Labs Includ	48	Labs Includ	47	
Labs not rcvd	0	1	1	2					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

(LY) - L & W 152 without moisture correction

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

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

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
2H68E3	20.3	21.3	20.9	20.6	20.8	-0.34	1.0	0.4	21.0	-0.07	1.1	0.4	12	LW
34ZE2W	20.8	21.1	21.4	21.4	21.2	0.16	1.1	0.3	21.3	0.23	1.2	0.3	12	LU
3HLKG7	21.2	20.0	20.0	19.9	20.3	-0.94	1.3	0.6	20.8	-0.19	1.4	0.6	12	LW
48DC8Y	21.5	20.5	20.5	21.3	20.9	-0.15	1.1	0.5	20.4	-0.68	0.8	0.9	12	XX
4C99U4	21.7 L	20.7 L	20.9 L	21.3 L	21.1	0.13	0.3	0.4	21.4	0.38	0.3	0.5	12	LA
68TVQV	20.8 L	20.9 L	20.8 L	21.2 L	20.9	-0.13	0.2	0.2	20.8	-0.20	0.2	0.3	12	LA
6X9PUR	19.7	19.5	19.5	19.1 *	19.4	-1.97	1.2	0.2	19.5	-1.62	1.2	0.3	12	LU
72HH73	22.0	22.4	22.2	21.3	21.9	1.11	1.3	0.5	21.8	0.77	1.6	0.6	8	LW
BAZEZQ	22.2	No Data	20.5	21.0	21.2	0.21	1.4	0.9	21.5	0.43	1.3	0.6	10	LW
CC7YNR	21.2 L	21.0 L	21.0 L	21.4 L	21.1	0.14	0.0	0.2	21.3	0.23	0.0	0.6	12	LA
CDCKCR	22.2	21.0	22.1	21.3	21.7	0.76	1.4	0.6	21.8	0.77	1.2	0.7	12	LW
CDG4YU	23.2 *	22.7	22.9	23.2 *	23.0	2.43 *	1.5	0.2	22.4	1.42	1.3	0.7	12	LA
CWBM8A	21.4	21.1	21.8	22.4	21.7	0.78	1.4	0.6	21.7	0.66	1.3	0.6	12	LZ
D794VH	21.4	21.6	20.9	21.2	21.3	0.29	1.4	0.3	21.4	0.34	1.3	0.4	12	LU
DABXXT	20.8	21.5	20.1	No Data	20.8	-0.30	1.1	0.7	21.0	-0.05	1.2	0.4	10	LW
ECRR6E	19.7	20.7	20.9	19.9	20.3	-0.92	1.2	0.6	19.9	-1.13	1.2	0.5	12	LU
ER7XER	20.1 L	22.1 L	22.0 L	22.5 L	21.7	0.79	0.2	1.1	21.1	0.12	0.3	0.9	12	LA
EW77PU	20.8	20.6	21.3	21.2	21.0	-0.06	0.9	0.3	20.9	-0.15	0.8	0.3	12	BK
F4UGA9	21.1	21.3	20.7	20.9	21.0	-0.05	1.1	0.3	21.1	0.09	1.0	0.3	12	LY
FLWYKD	21.1 L	21.2 L	21.4 L	21.8 L	21.4	0.41	0.1	0.3	21.2	0.19	0.1	0.5	12	LA
FXQF8U	21.1 L	21.4 L	21.9	21.5 L	21.5	0.56	0.5	0.3	21.7	0.70	0.6	0.5	12	LY
G2P7ZQ	21.2 L	25.4 XL	23.0 *L	22.5 L	23.0	2.42 *	0.3	1.8 H	22.1	1.11	0.3	1.3	12	BK
GHUDET	19.0	19.6	20.6	21.4	20.2	-1.09	1.3	1.0	19.5	-1.54	1.2	1.0	12	XX
JDC27G	27.6 X	22.9 *	21.7	22.2	23.6	3.14 X	1.7	2.7 H	22.8	1.78	1.6	1.7	11	LA
JEPPPG	21.4 L	21.2 L	21.1 L	22.6 L	21.6	0.64	0.3	0.7	22.1	1.05	0.6	0.7	12	LA
JJF7VF	20.0	19.9	19.3	19.7	19.7	-1.63	1.4	0.3	19.6	-1.43	1.2	0.5	12	LW
JYAL4M	20.3	20.5	21.0	20.4	20.6	-0.60	1.0	0.3	20.7	-0.32	1.0	0.3	12	XX
KH22XH	21.0	21.1	21.3	21.7	21.3	0.30	0.9	0.3	20.9	-0.15	0.8	0.8	12	LU
KVLG33	20.8	21.3	21.0	21.0	21.0	-0.01	1.1	0.2	20.9	-0.10	1.2	0.3	12	LY
LGPE8G	21.7	21.3	22.0	21.4	21.6	0.73	1.3	0.3	21.3	0.23	1.3	0.6	12	LU
MBU2KJ	21.9	21.8	21.8	21.6	21.7	0.87	1.1	0.1	21.4	0.34	1.0	0.4	12	LW
MC8LLF	20.4	21.2	21.1	21.4	21.0	-0.01	1.1	0.4	19.3	-1.81	0.8	3.7 H	8	LU
MLUGMG	21.3	21.6	21.8	20.5	21.3	0.34	1.4	0.6	22.0	1.00	1.5	1.1	12	LZ
N7YG9M	19.8	20.3	20.0	21.0	20.3	-0.96	1.4	0.5	20.6	-0.41	1.3	0.4	12	XX
NKC3FJ	19.0	19.8	19.4	20.2	19.6	-1.79	0.6	0.5	19.9	-1.19	0.6	1.4	12	LZ



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
NW7J6K	20.8	20.8	20.7	20.1	20.6	-0.52	1.2	0.3	21.9	0.91	1.2	3.2 H	12	LZ
QCEWUV	20.4	20.2	20.4	20.8	20.5	-0.72	1.0	0.2	20.5	-0.58	1.0	0.2 L	12	TT
QCV7NG	18.2 *L	20.9	22.5	20.3	20.5	-0.72	0.8	1.8 H	20.5	-0.55	0.7	1.2	12	LZ
RNL8WB	17.5 XL	18.6 *L	No Data	No Data	18.0	-3.69 X	0.0	0.8	17.8	-3.31 X	0.0	0.6	4	LA
T6NGZ9	20.6	20.1	21.0	20.9	20.6	-0.48	1.4	0.4	20.0	-1.06	1.3	0.9	12	LU
UU3LDD	20.8	20.8	20.9	20.8	20.8	-0.26	1.5	0.0 L	20.8	-0.22	1.4	0.3	12	LW
W4J6NN	20.7	20.6	20.7	20.7	20.7	-0.46	1.0	0.1 L	20.7	-0.31	1.0	0.2	12	TT
WHJPMZ	22.6 L	22.8 *L	21.8 L	22.2 L	22.4	1.62	0.2	0.4	22.5	1.52	0.2	0.5	12	LA
X8DG67	19.5 L	15.8 XL	16.6 XL	16.0 XL	17.0	-5.02 X	0.4	1.7 H	19.2	-1.90	0.3	1.9 H	12	LA
XEG7ZT	22.8 L	21.1 L	22.1 L	22.1 L	22.0	1.22	0.1	0.7	23.6	2.64 *	0.1	4.2 H	8	XX
XXBYU4	21.5	20.8	22.6	21.9	21.7	0.78	1.3	0.8	22.0	1.00	1.3	0.8	12	LU
YBU2PZ	19.0	18.7 *	19.2 *	19.5	19.1	-2.42 *	1.1	0.3	19.1	-2.01 *	1.2	0.3	12	LU
YTBGL2	21.1 L	20.7 L	20.5 L	21.3 L	20.9	-0.15	0.0	0.4	20.8	-0.24	0.0	0.5	12	LU

Consensus (All Labs) Results

Wk Mean	20.87	20.92	21.10	21.16	Month Mean	21.04	Grand Mean	21.03
Avg SDr	1.03	1.10	1.07	1.08	Avg SDr	1.06	Avg SDr	1.03
SD btwn Labs	1.03	0.91	0.92	0.88	SD btwn Labs	0.81	SD btwn Labs	0.97
Labs Includ	46	45	46	45	SD btwn Wks	0.61	SD btwn Wks	1.19
Labs Exclud	2	2	1	1	Labs Includ	45	Labs Includ	47
Labs not rcvd	0	1	1	2				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

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

(LY) - L & W 152 (was 52M)

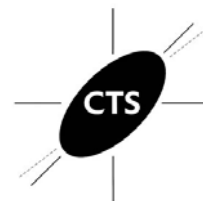
(TT) - TMI Short Span Compression, 17-34 (MB K455)

(LA) - L & W Autoline

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

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

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2H68E3	138.5	0.50	9.0	135.0	0.05	10.2	3	XX
3HLKG7	139.2	0.54	17.1	136.9	0.14	13.0	4	EV
4C99U4	108.5	-1.34	15.1	102.9	-1.58	14.0	3	LA
68TVQV	117.3	-0.80	5.8	112.6	-1.09	8.5	4	EV
6X9PUR	141.7	0.70	13.2	143.6	0.49	14.1	4	EV
72HH73	130.9	0.03	11.8	137.1	0.15	13.1	2	EV
9H2Y4V	120.8	-0.58	5.5	119.6	-0.73	6.5	4	EV
CC7YNR	127.6	-0.17	13.8	128.8	-0.27	13.2	4	LA
CWBM8A	127.1	-0.20	10.9	128.4	-0.29	10.0	3	LA
FLWYKD	150.2	1.21	20.8	144.0	0.50	20.4	4	LA
FXQF8U	91.8	-2.35 *	6.8	102.5	-1.60	6.9	4	EV
G2P7ZQ	135.9	0.34	15.4	135.9	0.09	15.4	1	EV
JDC27G	119.2	-0.68	12.0	118.4	-0.80	12.2	4	LA
JEPPPG	140.8	0.64	20.7	139.6	0.28	24.6	4	LA
KH22XH	214.9	5.17 X	92.2	171.8	1.91	65.8	2	EV
LGPE8G	142.9	0.77	11.4	140.1	0.30	11.2	4	EV
MLUGMG	329.2	12.14 X	222.5	209.0	3.80 X	129.4	4	XX
QCV7NG	144.5	0.86	14.4	138.5	0.23	15.3	4	XX
UU3LDD	104.0	-1.60	8.7	102.4	-1.61	9.7	4	EV
X8DG67	149.0	1.14	21.8	164.4	1.54	23.6	4	LA
XEG7ZT	185.9	3.39 X	13.2	166.2	1.63	18.0	2	XX
YBU2PZ	146.5	0.98	9.8	146.5	0.63	10.5	4	EV

Consensus (All Labs) Results			
Month Mean	130.33	Grand Mean	134.06
Avg SDr	13.70	Avg SDr	20.07
SD btwn Labs	16.38	SD btwn Labs	19.73
Labs Incd	19	Labs Incd	21

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgage Model 210-R

(LA) - L & W Autoline

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

Containerboard Interlaboratory Testing Program
Analysis 231

Internal Bond, 36 lb Linerboard - 36Z
TAPPI Provisional Test Method T569



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2H68E3	201.8	2.33 *	7.6	199.3	1.68	9.1	4	HY
34ZE2W	173.4	0.50	5.7	170.4	0.17	6.2	4	HY
4C99U4	165.0	-0.04	13.1	156.1	-0.57	9.4	3	TM
7RDBQ3	177.4	0.76	10.3	173.4	0.33	7.2	4	SC
9H2Y4V	157.2	-0.54	3.6	160.2	-0.36	4.0	3	HY
BFLGXV	166.6	0.06	4.2	167.6	0.03	5.7	4	SC
D794VH	179.6	0.90	14.6	143.9	-1.21	12.9	4	HZ
ECRR6E	186.0	1.31	6.4	183.1	0.84	13.8	4	XX
ER7XER	39.3	-8.12 X	0.9	45.0	-6.39 X	1.0	3	XX
GHUDET	147.2	-1.18	17.7	163.0	-0.22	29.8	4	SC
JJF7VF	174.2	0.55	3.7	178.5	0.60	8.0	4	TM
KH22XH	148.6	-1.09	6.5	145.0	-1.15	5.3	2	TM
LGPE8G	147.8	-1.14	5.4	152.8	-0.75	6.6	4	TM
MC8LLF	153.2	-0.80	7.0	148.8	-0.96	8.2	2	TM
MLUGMG	151.6	-0.90	18.6	150.1	-0.89	16.9	4	TM
QCV7NG	224.0	3.75 X	4.2	207.5	2.12 *	14.7	4	SC
VUWR9X	158.0	-0.49	2.9	151.9	-0.79	7.2	4	TM
X8DG67	162.0	-0.23	23.9	188.8	1.13	31.9	4	HY

Consensus (All Labs) Results			
Month Mean	165.60	Grand Mean	167.07
Avg SDr	11.25	Avg SDr	13.99
SD btwn Labs	15.56	SD btwn Labs	19.11
Labs Incd	16	Labs Incd	17

Instrument Code List as Reported by the Labs

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

(HZ) - Huygen Internal Bond Tester with AccuPress
(TM) - TMI Monitor/Internal Bond Tester

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

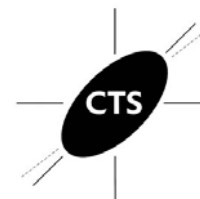


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2H68E3	24.6	-1.07	1.1	25.3	-1.13	1.7	4	ZZ
34ZE2W	27.8	0.35	0.8	24.9	-1.35	1.0	4	ZZ
48DC8Y	26.0	-0.45	1.0	26.6	-0.40	1.5	2	ZZ
4C99U4	27.8	0.35	1.9	28.6	0.69	2.9	3	ZZ
6X9PUR	23.2	-1.69	1.9	25.4	-1.08	2.0	4	ZZ
72HH73	25.2	-0.80	1.5	25.1	-1.19	1.3	3	ZZ
BAZeqQ	30.8	1.68	3.6	28.4	0.55	2.3	4	ZZ
D2XWRT	22.6	-1.96	1.5	25.6	-0.94	2.4	4	ZZ
ER7XER	27.2	0.08	1.8	30.8	1.89	1.6	4	ZZ
JF7VF	27.1	0.05	3.5	27.7	0.21	4.4	4	ZZ
KH22XH	29.2	0.97	1.5	29.2	0.99	1.9	2	ZZ
LGPE8G	28.8	0.79	1.6	28.7	0.74	1.2	4	ZZ
MC8LLF	29.3	1.01	2.4	29.3	1.07	1.9	2	ZZ
MLUGMG	26.0	-0.45	2.0	24.8	-1.37	1.9	4	ZZ
NC2QFE	25.7	-0.58	3.8	27.3	0.00	3.3	4	ZZ
UU3LDD	29.6	1.15	1.1	28.6	0.67	1.1	4	ZZ
WHJPMZ	29.2	0.97	1.3	29.3	1.04	1.4	4	ZZ
X8DG67	28.0	0.44	1.0	28.1	0.40	2.3	4	ZZ
YBU2PZ	25.2	-0.82	0.8	25.9	-0.80	1.4	4	ZZ

Consensus (All Labs) Results			
Month Mean	27.01	Grand Mean	27.33
Avg SDr	2.01	Avg SDr	2.13
SD btwn Labs	2.26	SD btwn Labs	1.84
Labs Incd	19	Labs Incd	19

Instrument Code List as Reported by the Labs

(ZZ) - Instruments No Longer Tracked



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2H68E3	52.6	0.55	1.2	52.1	0.53	1.6	4	XX
34ZE2W	50.4	-0.56	2.3	51.7	0.42	3.2	4	TP
48DC8Y	39.7	-6.13 X	1.9	40.4	-3.38 X	2.2	2	XX
4C99U4	51.6	0.02	2.4	51.5	0.35	2.2	3	LA
6X9PUR	50.6	-0.48	1.5	51.0	0.16	1.8	4	LP
7RDBQ3	50.6	-0.47	1.0	51.2	0.22	1.5	4	LP
8NTPDL	51.2	-0.17	2.7	50.7	0.05	2.8	4	GG
A6RLLV	52.5	0.50	2.7	52.1	0.55	3.8	4	XX
BAZEZQ	51.7	0.11	1.4	49.1	-0.48	2.0	4	LP
CC7YNR	53.5	1.03	5.3	52.5	0.66	3.4	4	TL
ER7XER	52.6	0.58	2.1	52.9	0.81	1.7	4	LA
JEPPPG	50.8	-0.39	2.1	50.5	-0.01	1.7	4	LA
JJF7VF	52.4	0.43	3.2	51.6	0.36	2.9	4	HG
K2BVPN	51.5	0.00	1.5	51.9	0.46	1.5	4	XX
KH22XH	43.6	-4.09 X	1.7	43.2	-2.44 *	1.7	2	XX
KVLG33	50.8	-0.37	1.0	50.1	-0.12	0.9	4	LP
MC8LLF	52.3	0.42	1.8	52.7	0.75	1.9	2	LA
MLUGMG	51.6	0.04	4.8	49.4	-0.38	3.4	4	XX
NC2QFE	46.6	-2.54 *	2.0	43.6	-2.32 *	2.0	4	GA
X8DG67	56.5	2.56 X	1.6	55.4	1.66	1.9	4	LA
XEG7ZT	49.1	-1.26	1.6	46.8	-1.24	2.2	3	XX

Consensus (All Labs) Results

Month Mean	51.52	Grand Mean	50.50
Avg SDr	2.48	Avg SDr	2.34
SD btwn Labs	1.93	SD btwn Labs	2.97
Labs Incd	19	Labs Incd	20

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

(GG) - Gurley Precision #4320 Densometer

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

(LA) - L & W Autoline

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

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

(TP) - Technidyne Profile/ plus Roughness & Porosity

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
34ZE2W	62.6	60.4	63.0	59.4	61.3	-0.39	3.4	1.7	61.3	-0.32	3.7	1.2	16	LC
36C6B2	62.1	62.0	61.0	61.0	61.5	-0.30	3.1	0.6	61.0	-0.44	2.8	1.0	16	EM
6X63GK	63.4	62.9	64.0	63.1	63.4	0.58	3.4	0.5	62.2	0.09	3.0	2.5	16	LD
6X9PUR	61.9	61.4	61.9	60.6	61.4	-0.33	2.9	0.6	63.3	0.65	3.8	2.5	15	LZ
7VCQVJ	62.1	61.9	61.5	62.0	61.9	-0.13	1.8	0.3	61.6	-0.17	1.7	1.0	16	LC
AFRC4W	62.4	63.0	61.7	61.9	62.3	0.05	2.8	0.6	62.3	0.13	2.9	0.7	16	LD
AGPF4Y	61.0	62.8	61.0	62.0	61.7	-0.20	2.6	0.9	60.8	-0.58	2.6	2.2	16	LD
BAZEZQ	66.9	No Data	64.2	65.8	65.6	1.66	2.8	1.3	64.9	1.41	3.0	1.7	15	LC
BDE2QP	62.8	64.5 L	62.8 L	62.8	63.2	0.51	1.4	0.8	62.5	0.23	1.5	1.0	16	TD
BFLGXV	60.0	58.5	59.4	61.2	59.8	-1.13	2.4	1.1	60.0	-0.92	3.1	3.3 H	16	LD
CDCKCR	64.1	64.1	64.0	66.0 H	64.6	1.15	3.5	1.0	64.7	1.28	2.8	2.1	15	LC
CDG4YU	62.0 L	63.8	61.3 L	61.7 L	62.2	0.03	1.6	1.1	62.0	0.02	2.7	1.1	16	XX
CWBM8A	61.2	59.9	59.7	57.6 *	59.6	-1.22	2.7	1.5	58.9	-1.45	3.2	2.8	12	LD
D2XWUD	64.6	62.6	63.2	62.3	63.2	0.50	3.1	1.0	63.0	0.49	3.3	1.5	12	LZ
D794VH	68.1 *	67.1	64.0	63.9	65.8	1.73	3.6	2.1	65.7	1.75	3.9	1.8	9	LC
DABXXT	64.7	66.0	66.7 *	No Data	65.8	1.73	2.8	1.0	66.5	2.12 *	2.3	1.2	14	LC
ECRR6E	63.1	58.3	61.4	63.2	61.5	-0.30	3.0	2.3	60.4	-0.76	3.0	2.4	16	LC
ERM8DK	62.0	63.1	62.5	62.7	62.6	0.21	2.6	0.5	62.6	0.28	2.5	0.4	16	LD
FLWYKD	57.0 *	58.2	56.9 *	57.8	57.5	-2.22 *	2.7	0.6	58.1	-1.84	2.8	2.4	14	MB
G2P7ZQ	64.0	66.1	65.3 H	62.4 H	64.4	1.10	5.4	1.6	61.2	-0.39	3.9	3.2 H	16	MB
GHUDET	61.4	61.3	59.7 L	61.1	60.9	-0.61	2.5	0.8	60.0	-0.95	3.2	1.8	16	LX
GKY2UH	62.0	62.4	62.3	62.8	62.4	0.11	2.3	0.3	62.5	0.25	2.5	0.4	16	LC
HHUVRH	64.7	61.5	62.3	62.8	62.8	0.33	3.1	1.4	62.0	0.02	3.4	2.5	16	LC
HUG7VE	67.9 * L	67.6 *	66.6 *	65.9	67.0	2.33 *	1.5	0.9	64.2	1.06	2.6	2.5	12	MB
JYAL4M	61.0	60.2	60.2	59.6	60.3	-0.90	2.7	0.6	61.4	-0.30	3.0	1.9	16	LC
K2BVPN	59.8	62.0	61.8	61.5	61.3	-0.41	2.4	1.0	62.0	0.00	2.7	1.1	16	LD
KVLG33	60.6 L	60.9	60.9	61.0	60.8	-0.62	1.7	0.2 L	60.6	-0.67	1.7	0.4	16	LD
LEGANZ	64.7 L	66.5	63.9	67.8 *	65.7	1.71	2.0	1.8	64.4	1.16	3.4	1.6	12	TM
LGPE8G	63.1	62.4	61.7	62.5	62.4	0.14	2.8	0.6	61.7	-0.12	2.9	1.1	16	LD
LR3LZA	63.1	63.4	63.6	63.9	63.5	0.65	2.9	0.3	63.2	0.57	3.2	0.7	16	XX
LXBZPL	62.6	61.8	62.9	64.0	62.8	0.33	2.5	0.9	64.0	0.94	3.0	1.2	16	EM
MBU2KJ	61.2	61.7	61.1	61.7	61.4	-0.34	2.1	0.3	61.0	-0.45	2.0	0.9	16	LC
MC8LLF	65.4	66.4	64.5	66.9	65.8	1.75	3.3	1.1	64.4	1.15	3.0	2.2	8	LC
NW7J6K	68.2 * H	72.0 XH	67.3 *	68.3 *	69.0	3.25 X	4.4	2.1	65.7	1.74	4.7	4.1 H	15	LZ
P39UT4	60.6	56.2 *	62.3	62.8	60.5	-0.78	2.4	3.0 H	60.8	-0.56	3.1	2.1	12	XX



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
PB362E	60.4 ^H	64.2	63.9	61.0	62.4	0.10	4.5	2.0	65.6	1.70	4.0	3.4 ^H	16	LC
QCEWUV	61.8	60.8	62.6	63.0	62.0	-0.05	2.6	1.0	61.4	-0.29	2.7	0.7	16	TH
QWF7UC	61.1	59.2	62.6	62.3	61.3	-0.41	2.8	1.5	62.4	0.19	2.8	1.7	16	LD
QWZT8Z	63.2	59.0	63.0	60.9	61.5	-0.30	2.8	2.0	62.1	0.07	3.0	1.6	12	LC
RG6TT7	59.2	61.2	62.5	64.0	61.7	-0.19	2.9	2.1	61.3	-0.33	2.8	1.5	16	LC
RNL8WB	57.6	59.7	No Data	No Data	58.7	-1.66	2.7	1.5	59.4	-1.23	3.0	1.2	5	LZ
TTC2BN	61.2	61.9	58.7	61.9	60.9	-0.58	2.7	1.5	59.9	-0.97	2.6	1.4	16	TD
UU3LDD	59.9	59.7	59.5 ^L	59.6	59.7	-1.18	1.5	0.2 ^L	59.6	-1.13	1.5	0.3 ^L	16	TH
W4J6NN	58.7	59.5	61.8	60.8 ^H	60.2	-0.92	4.0	1.4	60.2	-0.86	3.8	1.3	16	TG
XEG7ZT	60.4	54.7 ^{*H}	59.4	60.9	58.9	-1.56	3.1	2.8 ^H	56.6	-2.56 [*]	5.3	4.3 ^H	12	XX

Consensus (All Labs) Results									
Wk Mean	62.35	61.87	62.28	62.43	Month Mean	62.14	Grand Mean	61.97	
Avg SDr	2.99	2.71	2.79	3.05	Avg SDr	2.86	Avg SDr	3.08	
SD btwn Labs	2.51	2.80	2.12	2.31	SD btwn Labs	2.10	SD btwn Labs	2.11	
Labs Includ	45	43	44	43	SD btwn Wks	1.33	SD btwn Wks	1.98	
Labs Exclud	0	1	0	0	Labs Includ	44	Labs Includ	45	
Labs not rcvd	0	1	1	2					

Instrument Code List as Reported by the Labs

- (EM) - Emerson 1200 Series
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TD) - TMI Digital Crush Tester, Model 17-09
- (TH) - TMI Compression Tester, Model 17-76
- (XX) - Instrument make/model not specified by lab
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TG) - TMI Compression Tester, Model 17-10
- (TM) - TMI/Hinde & Dauch



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
34ZE2W	75.7 H	78.1	77.3	77.6	77.2	1.19	2.7	1.0	75.9	0.92	2.7	3.8	16	LC
A6RLLV	72.2	71.6 L	73.1	73.2	72.5	-0.88	1.5	0.7	72.8	-0.28	1.4	0.6	16	XX
BAZEZQ	73.2	No Data	74.0	75.0	74.1	-0.19	3.0	0.9	74.4	0.34	3.1	2.0	15	XX
BDE2QP	74.6	72.6 L	72.3	72.3	73.0	-0.68	1.3	1.1	72.8	-0.27	1.7	1.1	16	TD
DABXXT	75.8	75.8	75.8	No Data	75.8	0.58	2.6	0.0 L	76.1	0.98	2.3	2.3	14	LC
HHUVRH	72.6	75.5	66.9 *	75.1	72.5	-0.88	2.7	4.0	70.3	-1.21	2.9	4.5	16	LZ
HUG7VE	74.3	74.8 L	74.4 L	74.4	74.5	0.00	1.4	0.2 L	70.3	-1.24	2.4	3.8	12	MB
MBU2KJ	72.4	73.8	72.4	71.8	72.6	-0.85	1.7	0.8	72.2	-0.50	1.9	0.8	16	LC
NW7J6K	77.6	75.3	73.0 H	75.0	75.2	0.31	3.1	1.9	73.8	0.09	4.3	3.4	15	LZ
P39UT4	74.8	65.8 *H	75.4	75.0	72.7	-0.78	4.5	4.7 H	71.4	-0.82	4.4	5.2 H	12	TU
QWZT8Z	79.3 *	79.9	79.8	78.6	79.4	2.19 *	2.6	0.6	78.8	2.00	2.6	1.2	11	LC

Consensus (All Labs) Results											
Wk Mean	74.78	74.31	74.04	74.79	Month Mean	74.50				Grand Mean	73.53
Avg SDr	2.15	3.23	2.53	2.45	Avg SDr	2.61				Avg SDr	2.86
SD btwn Labs	2.24	3.86	3.28	2.11	SD btwn Labs	2.25				SD btwn Labs	2.62
Labs Includ	11	10	11	10	SD btwn Wks	2.04				SD btwn Wks	3.03
Labs Exclud	0	0	0	0	Labs Includ	11				Labs Includ	11
Labs not rcvd	0	1	0	1							

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

(MB) - Messmer Buchel K440

(TU) - TMI Universal Crush Tester (TMI K440)

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

(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



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
2A8JEQ	39.5 L	40.5	39.8	40.2	40.0	-1.33	1.5	0.4	41.9	-0.53	1.3	1.4	16	WK
34ZE2W	42.9	42.1	43.0	45.3	43.3	0.04	3.0	1.4	43.5	0.09	3.2	1.4	16	LC
36C6B2	41.2	42.2	41.1	41.1	41.4	-0.77	2.4	0.5	40.8	-0.94	2.0	0.9	16	LC
4K3CZL	41.6 H	44.4	43.2 H	45.5	43.7	0.19	4.2	1.7	43.0	-0.10	2.9	1.6	16	LZ
6X63GK	46.5	47.5	47.6	46.9 L	47.1	1.63	1.7	0.5	46.8	1.33	1.9	1.0	16	LD
7VCQVJ	47.7	48.1	48.1 *	47.9	47.9	1.97	1.4	0.2 L	48.0	1.78	1.3	0.5	16	LC
AFRC4W	45.2	46.0	44.4	44.8	45.1	0.79	1.9	0.7	45.2	0.73	2.3	0.8	16	LD
AGPF4Y	45.6	45.9	45.4	45.0 H	45.5	0.94	3.6	0.4	45.7	0.90	3.2	0.8	16	LZ
BAZEZQ	42.4	No Data	42.1	42.4	42.3	-0.38	3.0	0.2 L	41.7	-0.61	2.3	2.3	15	LC
CWBM8A	43.2	40.0	43.7	43.4	42.6	-0.26	2.5	1.7	42.7	-0.21	2.5	1.4	12	LD
D794VH	42.7	41.6	42.4	41.4	42.0	-0.50	2.3	0.6	41.8	-0.56	2.7	0.8	15	LD
HUG7VE	43.6	40.9	42.8	41.3	42.2	-0.44	3.4	1.3	38.6	-1.79	2.8	2.8 H	12	MB
K2BVPN	42.3	42.9	40.7	41.3	41.8	-0.59	3.3	1.0	42.4	-0.35	3.8	0.8	16	LD
LEGANZ	46.8	45.6	41.5	45.3	44.8	0.67	3.1	2.3	46.8	1.35	2.5	2.1	12	LZ
LR3LZA	44.5	43.6 L	43.3	44.2	43.9	0.28	2.1	0.6	43.9	0.23	2.3	1.4	16	XX
QMDUEA	38.5	38.6	39.1	39.4	38.9	-1.80	2.5	0.4	40.7	-0.98	2.0	1.5	16	TH
RG6TT7	41.3	37.6	41.3	42.6	40.7	-1.05	3.1	2.1	40.4	-1.09	2.7	1.6	16	LC
RNL8WB	41.2	42.4	No Data	No Data	41.8	-0.58	2.4	0.8	41.6	-0.66	2.2	2.1	5	EM
XEG7ZT	42.3	46.9	45.1	49.6 *	46.0	1.16	2.2	3.1 H	47.0	1.41	3.2	2.0	12	XX

Consensus (All Labs) Results											
Wk Mean	43.11	43.16	43.04	43.75	Month Mean	43.21				Grand Mean	43.29
Avg SDr	2.70	2.37	3.07	2.68	Avg SDr	2.71				Avg SDr	2.57
SD btwn Labs	2.45	3.06	2.43	2.78	SD btwn Labs	2.40				SD btwn Labs	2.62
Labs Includ	19	18	18	18	SD btwn Wks	1.31				SD btwn Wks	1.55
Labs Exclud	0	0	0	0	Labs Includ	19				Labs Includ	19
Labs not rcvd	0	1	1	1							

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series
(LD) - L&W Crush Tester 248
(MB) - Messmer Buchel K440
(WK) - Zwick Z005 Crush Tester

(LC) - L & W Crush Tester 48
(LZ) - L & W Crush Tester (model not specified)
(TH) - TMI Compression Tester, Model 17-76
(XX) - Instrument make/model not specified by lab



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
34ZE2W	15.2	15.1	15.0	15.3	15.1	0.53	1.2	0.1	15.1	0.81	1.1	0.2	16	LU
36C6B2	15.3	14.8	15.8	15.1	15.3	0.78	1.1	0.4	13.9	-1.89	1.1	0.9 H	16	LB
4K3CZL	15.0	15.7	14.8	15.4	15.2	0.76	1.2	0.4	14.9	0.39	1.2	0.6	16	LA
6X63GK	14.3	14.4	14.1	13.6 *	14.1	-1.61	1.1	0.3	14.6	-0.41	1.2	0.5	16	LA
6X9PUR	13.9	13.8	13.9	14.4	14.0	-1.76	1.0	0.3	13.8	-2.15 *	1.1	0.3	16	LU
7VCQVJ	14.3	15.1	14.8	14.8	14.8	-0.24	0.7	0.3	14.9	0.29	0.7	0.4	16	XX
CDCKCR	15.3	14.8	14.9	14.3	14.8	-0.14	1.1	0.4	14.9	0.28	1.2	0.4	16	LW
CWBM8A	15.4	15.8	15.3	15.4	15.5	1.26	1.3	0.2	15.0	0.66	1.2	0.4	12	LZ
D2XWUD	14.1	15.7	14.9	14.6	14.8	-0.14	1.4	0.7	14.9	0.24	1.2	0.4	12	LW
ERM8DK	14.7	14.4	15.0	15.0	14.8	-0.20	1.1	0.3	14.8	0.09	1.1	0.2	16	LB
FLWYKD	14.6 L	14.3 L	15.0 L	15.1 L	14.7	-0.26	0.0	0.4	14.6	-0.43	0.0	0.4	6	XX
G2P7ZQ	15.8 L	15.7 L	15.9 L	15.5 L	15.7	1.70	0.2	0.2	15.4	1.42	0.2	0.4	16	BK
GKY2UH	15.0	14.4	14.8	14.5	14.7	-0.41	1.0	0.3	14.8	0.07	1.1	0.2	16	LB
LEGANZ	14.9	16.2	15.9	15.0	15.5	1.22	1.1	0.6	15.5	1.75	1.1	0.4	12	LZ
QCEWUV	14.3	14.5	13.8	14.8	14.3	-1.11	0.8	0.4	14.4	-0.80	0.8	0.3	16	TT
T6NGZ9	14.9	14.0	14.6	13.7 *	14.3	-1.16	1.4	0.6	14.5	-0.48	1.1	0.6	16	LB
UU3LDD	14.5	14.9	14.8	15.0	14.8	-0.16	1.3	0.2	14.8	0.18	1.3	0.3	16	LW
XEG7ZT	15.8 L	14.8 L	15.2 L	15.6 L	15.3	0.94	0.0	0.4	18.1	7.72 X	0.1	4.8 H	12	XX

Consensus (All Labs) Results

Wk Mean	14.85	14.90	14.91	14.83	Month Mean	14.87	Grand Mean	14.76
Avg SDr	0.99	1.00	1.09	1.06	Avg SDr	1.04	Avg SDr	1.06
SD btwn Labs	0.57	0.66	0.59	0.58	SD btwn Labs	0.49	SD btwn Labs	0.43
Labs Includ	18	18	18	18	SD btwn Wks	0.39	SD btwn Wks	0.44
Labs Exclud	0	0	0	0	Labs Includ	18	Labs Includ	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