



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #533 (B) - February 2014

[Introduction to the Containerboard Program](#)

[Explanation of Tables and Definitions of Terms](#)

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BOX8</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT7</u>	<u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT7</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42B3</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>207</u>	<u>36Z2</u>	<u>Mullen Burst of Linerboard, 36 lb Linerboard</u>
<u>215</u>	<u>42B3</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>217</u>	<u>36Z2</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 36 lb Linerboard</u>
<u>223</u>	<u>42B3</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>225</u>	<u>36Z2</u>	<u>STFI of Linerboard, 36 lb Linerboard</u>
<u>228</u>	<u>69C</u>	<u>Roughness - Stylus Method, 69 lb Linerboard</u>
<u>231</u>	<u>36Z</u>	<u>Internal Bond Strength, Linerboard, 36 lb Linerboard</u>
<u>234</u>	<u>36Z</u>	<u>Coefficient of Static Friction - Inclined Plane, 36 lb Linerboard</u>
<u>237</u>	<u>36Z</u>	<u>Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard</u>
<u>240</u>	<u>CM73</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM73</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM73</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM73</u>	<u>STFI of Medium, 26 lb Corrugating Medium</u>

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
37EK6Z	756.2	-0.92	40.2	766.3	-0.74	49.5	2	ES
6HHNFC	878.4	1.29	11.3	888.9	1.72	22.0	2	TS
6QV2GA	813.6	0.12	59.5	814.4	0.23	63.8	2	LG
7F87RZ	905.6	1.79	56.3	911.2	2.17*	62.4	2	LH
8XLVFX	805.8	-0.02	29.2	797.4	-0.11	32.4	2	ER
AP8QRY	788.2	-0.34	34.0	837.7	0.70	26.7	2	TE
EAZAQD	826.4	0.35	31.5	821.5	0.37	31.9	2	LN
EBM3BV	885.4	1.42	8.3	887.0	1.68	12.0	2	LM
GYNR6L	784.0	-0.42	42.2	784.0	-0.38	42.2	1	EX
KEPRCD	808.4	0.02	68.0	816.4	0.27	49.5	2	ER
LUU7Z7	889.1	1.49	13.9	782.9	-0.40	35.1	2	LO
MDVJKE	772.8	-0.62	22.7	774.4	-0.57	27.6	2	TB
MYHUX4	853.6	0.84	67.9	804.3	0.03	66.9	2	LS
NHDKVH	700.0	-1.94	62.4	707.9	-1.91	55.1	2	LG
NNKQ7Z	798.9	-0.15	35.6	761.2	-0.84	28.6	2	LM
PYKZTW	820.3	0.24	63.1	775.1	-0.56	45.5	2	TR
QM6HFJ	820.9	0.25	21.7	820.9	0.36	21.7	1	LL
R843YW	802.4	-0.08	22.4	753.3	-1.00	41.3	2	LL
TUAAK7	719.2	-1.59	54.7	742.9	-1.20	79.9	2	ER
WYAWL	818.6	0.21	42.9	822.7	0.40	31.5	2	LG
XZNMJ8	711.8	-1.73	34.0	759.5	-0.87	64.5	2	LG
ZKGEGH	796.0	-0.20	37.0	835.5	0.65	36.9	2	LH

Consensus (All Labs) Results

Month Mean	807.07	Grand Mean	802.97
Avg SDr	43.03	Avg SDr	45.49
SD btwn Labs	55.15	SD btwn Labs	49.89
Labs Incd	22	Labs Incd	22

Consensus By Method

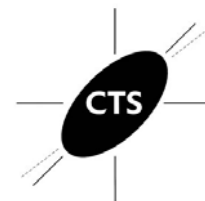
Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	797.68	52.59	9.39	5
Clip sealing	801.54	59.14	5.53	12
Tape sealing	829.74	52.31	22.67	5

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
(EX) - Emerson Apparatus (Model not specified)	(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
(LO) - Lansmont 152-30k	(LS) - Lansmont Squeezer
(TB) - TMI Monitor/Compression Tester, Model 17-70	(TE) - Testometric M500 - 25 KN
(TR) - Toyo Seiki Model RCT-5TU	(TS) - Tinus Olsen Model CTM



WebCode	Monthly Results			Cumulative Results				Inst
	Mean	CPV	SDr	Mean	CPV	SDr	Months	
2BF7VJ	39.9	0.51	2.3	40.9	0.72	2.5	4	XX
6QV2GA	42.2	1.41	1.5	42.6	1.34	2.0	4	LC
EAZAQD	41.9	1.29	1.2	41.6	1.01	1.3	4	EN
JYFP8C	39.1	0.16	1.0	39.2	0.11	0.9	4	PC
MYHUX4	38.9	0.09	1.5	40.1	0.46	1.3	4	PC
UFVAHE	37.1	-0.65	1.9	36.8	-0.78	1.7	4	LC
W3TUBM	34.7	-1.60	2.2	36.5	-0.88	2.8	4	TD
YJAQRR	38.2	-0.20	1.7	38.2	-0.24	1.6	2	TB
ZKGECH	36.1	-1.02	0.9	34.2	-1.73	1.2	4	TC

Consensus (All Labs) Results			
Month Mean	38.66	Grand Mean	38.90
Avg SDr	1.66	Avg SDr	1.79
SD btwn Labs	2.49	SD btwn Labs	2.72
Labs Incd	9	Labs Incd	9

Instrument Code List as Reported by the Labs

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

(PC) - Prensa Digital Crush Tester 2000

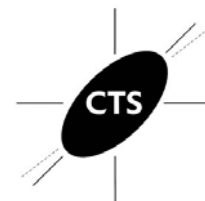
(TB) - TMI Monitor/Compression Tester, Model 17-70

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

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

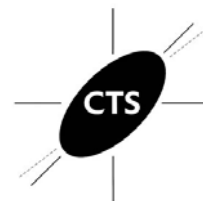
(XX) - Instrument make/model not specified by lab

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
37EK6Z	43.8	0.91	1.9	42.5	0.35	1.8	4	LD
3DE2TC	42.4	0.05	1.4	43.2	0.83	1.0	3	LC
6HHNFC	45.1	1.65	1.3	44.6	1.78	1.3	4	CT
6QV2GA	42.2	-0.08	1.5	42.0	-0.01	2.5	4	LC
7F87RZ	42.0	-0.17	1.6	42.3	0.22	1.9	4	EM
8XLVFX	39.6	-1.61	1.3	40.5	-1.05	1.3	4	EM
C3YCPC	39.7	-1.58	3.1	38.5	-2.41*	2.5	4	LD
CLTAQ4	43.2	0.55	1.4	42.8	0.55	1.6	4	LC
CPB6X3	43.4	0.65	1.2	43.6	1.12	1.8	4	XX
EAZAQD	42.9	0.33	1.1	43.0	0.68	1.6	4	EN
EBM3BV	41.9	-0.27	1.6	42.0	-0.01	1.3	4	TC
GYNR6L	41.6	-0.40	1.1	41.9	-0.09	1.7	4	TL
HLUE69	42.9	0.33	1.5	42.7	0.46	1.5	4	LD
HM6ZGA	42.3	-0.01	1.4	42.1	0.03	1.4	4	MB
JYFP8C	41.8	-0.33	0.7	41.7	-0.19	0.7	4	PC
JZGHAQ	42.7	0.23	0.9	41.8	-0.17	1.4	4	TB
KEPRCD	41.1	-0.73	1.7	42.1	0.05	1.6	4	EN
KZ77TK	43.4	0.63	1.5	43.2	0.82	1.8	4	LD
LUU7Z7	40.6	-1.06	1.1	40.4	-1.09	1.5	4	EN
MDVJKE	43.6	0.79	1.1	43.9	1.32	0.8	4	LC
MYHUX4	43.4	0.64	1.7	42.2	0.10	1.6	4	LC
NHDKVH	40.5	-1.08	1.4	40.5	-1.03	1.5	4	TB
NNKQ7Z	42.8	0.31	1.5	42.1	0.04	1.4	4	EM
QM6HFJ	42.2	-0.05	0.9	42.3	0.16	1.1	3	BU
R843YW	44.9	1.54	2.4	42.6	0.38	1.8	4	LC
TUAAK7	45.6	1.95	1.6	44.3	1.57	1.3	4	LD
UFVAHE	43.0	0.41	1.7	43.1	0.75	1.4	4	LC
XP2J2M	45.2	1.71	0.8	42.8	0.57	1.0	4	TG
XZNMJ8	39.8	-1.52	3.0	40.5	-1.04	2.3	4	EM
YJAQRR	40.1	-1.37	1.6	40.3	-1.20	1.5	4	TG
YZFYJF	40.9	-0.85	1.4	38.5	-2.41*	1.7	4	TK
ZKGECH	39.7	-1.56	1.3	40.4	-1.09	1.0	4	TC

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



Consensus (All Labs) Results

Month Mean	42.32	Grand Mean	42.02
Avg SDr	1.58	Avg SDr	1.57
SD btwn Labs	1.66	SD btwn Labs	1.45
Labs Incd	32	Labs Incd	32

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester	(CT) - Con-Ten
(EM) - Emerson 1200 Series	(EN) - Emerson 2200
(LC) - L&W Crush Tester 48	(LD) - L&W Crush Tester 248
(MB) - Minebea	(PC) - Pensa Digital Crusht Tester 2000
(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	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42B3

TAPPI Official Test Method T807



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
2LTJE8	94.9	88.1 X	100.8	99.5	95.8	-2.10*	10.7	5.7	96.6	-2.15*	10.5	4.9	9	TB
2YYLVU	111.8	105.8	108.2	107.6	108.4	0.65	11.8	2.5	106.8	0.53	10.1	4.7	16	AH
37EK6Z	105.7	104.3	102.1	106.4	104.6	-0.17	10.1	1.9	103.1	-0.43	10.3	3.3	16	LA
68JETF	124.3 X	113.1	112.0*	106.2	113.9	1.87	9.6	7.6 H	113.7	2.34*	9.5	7.2 H	16	TB
6AKFTD	103.6 L	106.3	104.3	105.0	104.8	-0.13	5.2	1.1	104.6	-0.04	4.9	1.5	16	AH
6HHNFC	102.0	107.8	104.5	104.9	104.8	-0.13	11.6	2.4	103.5	-0.34	12.4	5.0	16	XX
6LKFGX	109.3	107.8 L	109.7	109.7	109.1	0.82	5.1	0.9	107.5	0.73	4.5	1.3	16	LA
6QV2GA	116.1	113.3	106.5	109.2	111.3	1.30	12.0	4.3	110.0	1.38	11.2	3.4	16	LZ
6Z7UUX	100.5	101.5	105.6	92.6*	100.0	-1.17	9.5	5.4	100.3	-1.16	9.7	5.3	16	LC
6ZXLEV	99.8	101.4	104.5	100.8	101.6	-0.82	8.9	2.0	105.0	0.05	10.1	2.9	13	LA
77J9W2	103.9	105.1	99.3	106.0	103.6	-0.40	12.7	3.0	103.9	-0.24	11.4	2.9	16	AH
77JYTN	105.2	103.8	101.4	101.4	103.0	-0.53	9.0	1.9	102.9	-0.50	8.9	1.9	16	LZ
9JNC7E	108.6	109.8 L	107.7 L	109.4	108.9	0.77	4.7	0.9	109.2	1.16	4.8	1.1	16	XX
9PR9ZL	111.7	104.7	105.4	104.7	106.6	0.27	9.5	3.4	104.0	-0.21	10.0	2.9	16	LC
9VVGf8	106.7	109.6	104.1	103.0	105.9	0.10	11.7	2.9	104.8	0.01	11.4	2.3	16	LA
9XZAA7	109.9	109.1 H	105.6	113.9	109.6	0.93	11.2	3.4	110.4	1.49	11.6	2.8	16	LC
ANPMZZ	107.4	99.4	105.2	99.3	102.8	-0.56	8.4	4.1	103.7	-0.29	9.5	3.3	16	LJ
AP8QRY	No Data	No Data	100.8	99.3 L	100.1	-1.17	4.6	1.1	100.1	-1.23	4.1	0.5 L	6	AH
C3YCPC	104.7	110.5	106.0	108.0	107.3	0.42	9.0	2.5	107.1	0.62	9.9	3.0	16	AA
CPB6X3	94.1*	93.1*	97.4*	91.7*	94.1	-2.48*	11.1	2.4	96.2	-2.25*	10.9	2.8	16	LA
DL34RR	104.3	103.2	102.9	102.0	103.1	-0.50	6.5	0.9	105.4	0.17	7.3	2.3	16	TB
DQ2Q4Y	107.0	104.1	107.0	104.1	105.6	0.04	9.4	1.7	104.0	-0.19	10.1	3.8	15	LC
DTBWLU	111.8	111.3	106.5	108.7	109.6	0.92	10.5	2.5	107.6	0.76	10.3	3.3	16	LZ
EZMCM3	99.4	100.1	99.5	97.9	99.2	-1.35	9.1	0.9	99.8	-1.31	9.5	2.4	16	LA
FEBGQ2	104.1	98.7	99.0	96.7	99.6	-1.26	10.1	3.2	101.5	-0.86	9.4	2.5	12	LA
H97WE4	103.8	106.4 L	101.2	101.3 L	103.2	-0.48	7.5	2.5	104.6	-0.04	8.3	4.2	16	LC
HLUE69	109.1	107.4	106.5	108.3	107.8	0.53	7.8	1.1	107.5	0.71	8.8	1.9	16	TB
KCXXB3	110.0	99.9	108.6	108.0	106.6	0.27	10.1	4.6	103.9	-0.22	10.4	4.0	12	LC
KMHRHB	100.2	103.6	103.7	102.8	102.6	-0.61	11.9	1.6	102.4	-0.63	10.8	2.7	15	TB
KREPE2	120.0*	103.5	116.2 X	123.0 X	115.7	2.26*	11.5	8.6 H	118.3	3.56 X	11.9	7.7 H	12	XX
LMFWJJ	100.0	102.2	102.2	99.2	100.9	-0.99	8.1	1.6	102.5	-0.60	9.9	2.5	16	LC
MYHUX4	110.8	107.7	111.3	108.0	109.4	0.89	10.7	1.9	108.6	1.01	11.0	3.0	16	AH
NHDKVH	102.6	99.6	97.3*	104.2	101.0	-0.97	10.5	3.1	100.1	-1.22	9.1	2.2	15	LA
NNKQ7Z	100.5	102.9	104.8	103.3	102.9	-0.55	7.5	1.8	101.1	-0.96	7.4	2.4	16	AH
Q3R792	108.9	105.7 H	105.3	104.5	106.1	0.15	12.3	1.9	103.1	-0.42	9.9	3.3	16	LC



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
QX8PCJ	96.9	97.3	104.3	99.5	99.5	-1.29	10.4	3.4	99.2	-1.47	8.9	2.6	16	XX
TUAAK7	112.3	117.4*	107.0	108.2	111.2	1.28	10.6	4.7	104.0	-0.20	10.0	5.6 H	16	AH
UFQEXZ	101.0	103.6	102.3	104.3	102.8	-0.57	12.4	1.4	103.2	-0.40	10.8	2.8	16	AX
UT92PR	101.4	105.8	104.3	106.2	104.4	-0.21	10.3	2.2	103.2	-0.42	10.6	2.3	15	LA
VB99JK	108.8	105.3	107.8	105.2 L	106.8	0.31	7.7	1.8	104.2	-0.15	7.5	2.2	16	LC
W3BV4G	119.2*H	110.7	107.0 H	113.8 H	112.7	1.60	16.7	5.2	111.0	1.65	14.5	6.0 H	16	AH
WYAWL	104.2	103.5	103.5	104.5	103.9	-0.32	10.3	0.5 L	105.5	0.19	9.7	1.7	16	AH
XCD48Z	114.5	109.1	106.6	110.7	110.2	1.06	12.8	3.3	111.4	1.74	11.0	2.7	15	LA
Y3KRDE	108.3	105.1	107.9	112.4	108.4	0.67	9.6	3.0	108.5	0.99	12.0	6.2 H	16	LJ
YP2Y97	101.1	105.2	103.2	103.7	103.3	-0.46	6.1	1.7	104.5	-0.06	7.0	1.4	16	AH
YVZLKD	110.8	105.9	105.8	113.8	109.1	0.81	11.1	3.9	109.3	1.20	10.2	2.7	16	TB
ZK4X9B	114.7	111.5	111.9*	113.6	112.9	1.66	11.9	1.5	110.8	1.58	12.7	3.6	16	LA
ZKGEFH	103.5	109.8	101.5	105.8	105.1	-0.06	12.1	3.5	106.4	0.44	11.4	3.4	16	AA
ZWF2TD	102.0	101.2	103.2	99.8	101.6	-0.84	7.0	1.4	101.0	-0.99	6.3	2.1	12	RE
ZZA4GK	107.4	108.8	107.3	107.8	107.8	0.53	8.9	0.7	105.7	0.25	8.7	2.3	15	LA

Consensus (All Labs) Results

Wk Mean	106.14	105.48	104.70	104.83	Month Mean	105.38	Grand Mean	104.76
Avg SDr	10.97	9.92	9.22	10.05	Avg SDr	10.03	Avg SDr	9.80
SD btwn Labs	5.83	4.59	3.42	5.09	SD btwn Labs	4.56	SD btwn Labs	3.80
Labs Includ	48	48	49	49	SD btwn Wks	3.19	SD btwn Wks	3.37
Labs Exclud	1	1	1	1	Labs Includ	50	Labs Includ	49
Labs not rcvd	1	1	0	0				

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
2LTJE8	75.8	69.2*	76.2	74.6	74.0	-1.62	5.2	3.2	72.5	-2.38*	5.6	5.6 H	8	TB
2YYLVU	80.0	82.8	80.2 H	79.8	80.7	0.64	7.4	1.4	78.4	-0.09	6.3	2.3	12	AH
37EK6Z	76.3	80.0	79.5	79.1	78.7	-0.02	5.4	1.7	78.7	0.03	5.2	1.8	12	LA
68JETF	89.8 X	88.1*	89.1*	86.6*	88.4	3.21 X	5.6	1.4	88.1	3.71 X	5.1	2.4	12	TB
6AKFTD	74.2 L	75.7	76.1	76.1 L	75.5	-1.09	2.7	0.9	75.9	-1.08	3.2	0.7	12	AH
6HHNFC	74.9	70.0*	69.4* H	71.0* H	71.3	-2.49*	9.0	2.5	69.5	-3.56 X	7.9	2.3	12	XX
6LKFGX	79.4 L	79.0 L	79.4 L	79.8	79.4	0.20	1.9	0.3 L	80.5	0.75	3.5	1.6	12	LA
6QV2GA	84.8*	81.1	86.5	84.3	84.2	1.79	5.9	2.2	83.0	1.71	6.1	1.9	12	LZ
6Z7UUX	78.2	72.4	77.1	76.0	75.9	-0.95	4.9	2.5	75.3	-1.28	4.4	2.7	11	LC
6ZXLEV	80.4	79.9	76.9	76.7	78.5	-0.11	4.6	2.0	78.5	-0.05	5.2	1.8	10	LA
77J9W2	79.2	77.6	76.1	76.6	77.4	-0.47	6.5	1.4	77.1	-0.60	5.9	2.0	12	AH
77JYTN	79.2	78.6	78.6	79.3	78.9	0.04	4.6	0.4 L	77.0	-0.63	5.1	2.0	12	LZ
9JNC7E	84.5*	85.1	84.3	80.8	83.7	1.63	3.6	1.9	83.3	1.84	4.0	1.5	12	XX
9PR9ZL	78.3	79.8	78.9	80.5	79.4	0.19	6.2	1.0	78.4	-0.08	5.8	1.9	12	LC
9VVGf8	78.3	78.1	81.2	82.7	80.1	0.43	4.5	2.3	79.5	0.33	5.0	2.4	12	LA
9XZAA7	82.7	83.8	83.1	82.0	82.9	1.37	5.1	0.8	82.8	1.63	6.1	1.2	12	LC
ANPMZZ	81.2	76.4	81.2	80.9	79.9	0.38	5.3	2.4	80.1	0.57	5.4	2.0	12	LJ
AP8QRY	No Data	No Data	79.4	79.6	79.5	0.24	4.6	0.1 L	79.5	0.35	4.6	0.1 L	2	AH
C3YCPC	78.2	85.4	83.3	82.1 L	82.3	1.15	5.6	3.0	81.5	1.13	5.6	2.1	12	AA
CPB6X3	69.5 X	70.6*	72.6	74.1	71.7	-2.38*	4.4	2.0	71.8	-2.66*	5.0	1.4	12	LA
DL34RR	77.2	80.3	78.5	77.6	78.4	-0.13	4.8	1.4	79.4	0.30	4.8	1.5	12	TB
DQ2Q4Y	76.0	74.4	80.8	77.1	77.1	-0.57	5.2	2.7	77.2	-0.55	5.1	2.1	11	LC
DTBWLU	81.5	79.6	77.5	77.1	78.9	0.04	5.5	2.0	79.4	0.30	5.9	1.8	12	LZ
EZMCM3	76.4	73.9 H	75.7	73.8	75.0	-1.28	6.3	1.3	75.1	-1.38	5.7	1.8	12	LA
FEBGQ2	78.4	77.9	76.8 L	76.6	77.4	-0.46	3.4	0.9	77.7	-0.35	4.0	1.0	12	LA
H97WE4	75.9	81.8	79.5	79.3 L	79.1	0.11	3.5	2.4	80.9	0.90	5.0	4.0 H	12	LC
HLUE69	78.5	80.4	79.4	81.4	79.9	0.38	4.9	1.3	81.5	1.13	4.3	2.4	12	TB
KCXXB3	77.1	77.2	79.6	79.7	78.4	-0.13	4.0	1.4	78.4	-0.08	4.0	1.4	4	LC
KMHRHB	80.1	75.8	75.8	76.8	77.1	-0.56	3.8	2.0	77.6	-0.38	5.4	2.5	12	TB
KREPE2	79.6 H	83.8	85.4	90.8 X	84.9	2.04*	7.2	4.6	86.5	3.09 X	6.7	4.2 H	8	XX
LMFWJJ	75.2	91.2 XH	74.2	76.6	79.3	0.17	8.0	8.0 H	76.8	-0.73	6.7	4.8 H	12	LC
MYHUX4	76.8	83.0	86.7*	84.7	82.8	1.34	6.7	4.3	81.6	1.19	6.2	3.1	12	AH
NHDKVH	75.9	78.0	74.7	73.8	75.6	-1.07	6.0	1.8	75.6	-1.16	5.4	1.5	12	LA
NNKQ7Z	74.1	77.9	76.8	79.0	76.9	-0.62	4.7	2.1	76.7	-0.75	4.2	1.5	12	AH
Q3R792	78.3	81.7	77.8	74.7	78.1	-0.23	7.0	2.9	77.1	-0.60	6.1	2.8	12	LC

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
QX8PCJ	73.1	74.9	78.8	81.6	77.1	-0.56	4.9	3.8	78.0	-0.22	4.8	3.0	12	XX
TUAAK7	81.0	81.7	79.5	82.5	81.2	0.80	5.3	1.3	78.9	0.10	5.1	2.5	12	AH
UFQEXZ	75.8	74.5	74.3	76.0	75.1	-1.22	4.8	0.9	76.3	-0.89	4.8	1.6	12	AX
UT92PR	79.9	79.0	78.5	79.4	79.2	0.14	5.4	0.6	77.5	-0.44	5.3	2.0	12	LA
VB99JK	73.2	73.9	74.7	75.2	74.3	-1.52	5.0	0.9	75.7	-1.14	5.1	1.7	12	LC
W3BV4G	82.6	79.3	83.7	81.5 H	81.8	0.99	7.5	1.9	79.8	0.46	7.0	3.4	12	AH
WYAWL	77.6	76.7	77.6 L	79.9	78.0	-0.28	4.8	1.4	79.8	0.46	5.6	2.3	12	AH
XCD48Z	85.1 *	80.8	79.7	83.3	82.2	1.15	7.1	2.4	82.4	1.48	6.4	2.8	12	LA
Y3KRDE	78.3	75.6	76.7	78.3	77.2	-0.52	4.5	1.3	77.1	-0.58	4.9	1.6	12	LJ
YP2Y97	80.0	79.8	78.4	79.6	79.5	0.22	3.4	0.7	79.6	0.38	3.3	0.8	12	AH
YVZLKD	83.0	83.5	84.1	85.4	84.0	1.74	4.9	1.0	83.2	1.81	5.7	1.2	12	TB
ZK4X9B	81.8	78.1	79.0	81.0	79.9	0.38	5.9	1.7	80.1	0.58	5.9	2.2	12	LA
ZKGEGH	79.5	78.8	78.3	78.5	78.8	-0.01	6.8	0.5	78.5	-0.03	6.0	1.6	12	AA
ZWF2TD	79.2	80.4	80.6	81.8	80.5	0.57	4.5	1.1	80.1	0.57	5.0	1.6	12	RE
ZZA4GK	77.2	82.7	80.6	76.8	79.3	0.18	5.5	2.8	79.0	0.14	5.4	2.0	12	LA

Consensus (All Labs) Results

Wk Mean	78.59	78.72	79.06	79.01	Month Mean	78.79	Grand Mean	78.61
Avg SDr	5.62	5.34	5.29	5.26	Avg SDr	5.45	Avg SDr	5.29
SD btwn Labs	2.93	4.03	3.73	3.32	SD btwn Labs	3.00	SD btwn Labs	2.56
Labs Includ	47	48	50	49	SD btwn Wks	2.31	SD btwn Wks	2.28
Labs Exclud	2	1	0	1	Labs Includ	49	Labs Includ	47
Labs not rcvd	1	1	0	0				

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

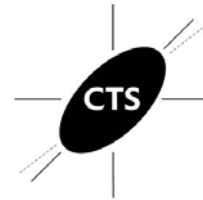


WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
2A2L6U	108.5	99.3	108.7	108.1	106.2	1.09	3.3	4.6	106.1	0.86	4.0	4.6	16	MB
2LTJE8	107.3	74.5 XH	112.3	106.7	100.2	-0.24	5.5	17.3 H	101.1	-0.07	5.3	13.8 H	9	LC
2PVULK	84.2 XH	76.4 XH	81.3 XH	80.2 XH	80.5	-4.60 X	8.7	3.2	87.4	-2.56*	10.9	8.5 H	12	MB
2YYLVU	105.9	96.9 H	105.6 H	110.1	104.6	0.75	6.0	5.6	106.9	1.00	5.7	3.8	16	LC
3M2XG7	102.8	102.8	104.2	103.0	103.2	0.43	3.2	0.7	103.8	0.43	3.4	2.1	16	LD
68JETF	106.6	104.7	106.8	104.7	105.7	0.98	3.2	1.2	105.4	0.73	4.0	1.4	16	LX
6AKFTD	102.4	100.2	100.3	101.8	101.2	-0.02	4.2	1.1	99.6	-0.33	3.9	2.9	16	LC
6LKFGX	102.0	102.9	101.4	101.6	101.9	0.15	2.5	0.7	102.2	0.13	2.3	0.5 L	16	LZ
6QV2GA	104.4	104.8	95.3	101.9	101.6	0.08	3.2	4.4	103.6	0.41	2.7	3.1	16	LC
6Z7UUX	110.0	105.5	100.4	102.1	104.5	0.72	3.6	4.2	105.8	0.80	3.5	3.5	16	LD
6ZXLEV	99.2	97.5	99.5	100.4	99.1	-0.47	3.5	1.2	98.7	-0.50	3.5	1.9	12	LD
77JYTN	97.0	103.1	101.3	101.8	100.8	-0.10	4.3	2.6	100.9	-0.09	4.3	3.8	16	LC
7F87RZ	107.8	107.1	106.5	107.4	107.2	1.32	3.7	0.6 L	107.2	1.07	3.8	2.4	16	EM
8LVB3G	110.7	98.7	105.0	110.8	106.3	1.12	3.8	5.7	102.3	0.17	3.9	6.2 H	13	LC
8XLVFX	94.8	93.6	95.4	94.3	94.5	-1.50	2.6	0.8	93.6	-1.43	3.1	1.2	16	EM
9JNC7E	106.9	104.2	102.7	100.9	103.7	0.54	4.2	2.5	103.4	0.37	4.0	3.9	16	XX
9VVGf8	92.1	94.0	95.0	93.2	93.6	-1.71	3.3	1.2	94.3	-1.30	3.3	1.5	16	LC
ANPMZZ	99.6	102.7	99.7	98.1	100.0	-0.27	3.8	1.9	100.2	-0.22	3.9	2.0	15	LD
AP8QRY	100.9	102.0	100.2	101.6	101.2	-0.02	2.5	0.8	100.5	-0.17	2.6	1.1	16	LD
BBLKBP	98.2	100.9	107.6	99.3	101.5	0.05	3.6	4.2	102.2	0.14	3.5	3.3	16	EM
C3YCPC	95.5	100.9	99.9	98.6	98.7	-0.57	3.3	2.3	97.5	-0.72	3.6	2.6	16	LD
CPB6X3	94.5	93.1	91.8	89.3*	92.2	-2.02*	3.3	2.2	93.7	-1.42	3.7	3.5	16	LD
DL34RR	99.1	96.7	101.9	97.0	98.7	-0.57	3.0	2.4	101.0	-0.08	3.1	2.7	16	TH
DMLLLN	98.7	97.3	99.8	100.4	99.0	-0.49	3.4	1.3	99.3	-0.40	3.4	1.8	13	LD
DQ2Q4Y	107.4	107.2	109.6	107.9 L	108.0	1.50	3.3	1.1	106.9	1.00	3.9	2.3	15	LC
DRKJCN	101.8	95.5	98.8	99.1	98.8	-0.54	3.5	2.6	102.4	0.18	3.1	2.7	16	LC
EDUFUH	83.1 X	No Data	No Data	No Data	83.1	-4.03 X	3.1	0.0 L	87.4	-2.56*	3.4	2.6	5	LZ
EZMCM3	98.3	99.7	103.4	99.4	100.2	-0.23	3.1	2.2	98.6	-0.52	3.2	2.5	15	LC
FEBGQ2	102.1	104.5	103.0	104.1	103.4	0.48	3.4	1.1	102.7	0.24	4.0	4.4	12	LC
HLUE69	100.3	104.5	102.9	103.6	102.8	0.35	2.5	1.8	103.1	0.30	2.7	1.6	16	LD
KCXXB3	105.0	107.9	97.9	100.6	102.9	0.35	3.0	4.4	104.1	0.49	3.1	4.5	12	LD
KEPRCD	95.8	97.6	98.1	97.9	97.4	-0.86	3.7	1.1	97.3	-0.76	3.3	1.6	16	EN
KMHRHB	104.8	105.4	102.5	101.4	103.5	0.50	3.8	1.9	102.7	0.24	4.0	2.8	15	LZ
KREPE2	118.3 X	112.9*	122.4 XH	119.4 X	118.3	3.77 X	4.5	4.0	116.0	2.66*	4.3	4.9	12	LZ
LMFWJJ	110.2	103.4	110.0	112.4	109.0	1.72	4.7	3.9	106.3	0.89	4.7	5.7	16	LC



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
LUU7Z7	101.5	103.8	100.5	No Data	101.9	0.15	3.5	1.7	104.2	0.51	3.4	2.8	14	LZ
MYHUX4	100.4 L	101.4 L	102.0	103.7	101.8	0.13	3.0	1.4	100.6	-0.15	3.1	1.7	16	LC
NNKQ7Z	97.7 L	99.4	102.4	99.4 L	99.7	-0.34	2.4	1.9	95.9	-1.02	2.5	2.8	16	EM
Q3R792	101.3 H	102.1	103.3	98.0 H	101.2	-0.02	6.7	2.3	104.1	0.50	8.4	3.8	16	LA
QX8PCJ	115.0 *	113.9 *	114.2 *	115.7 *	114.7	2.98 X	4.6	0.8	113.6	2.22 *	3.9	1.8	16	LZ
TUAAK7	106.3	102.1	102.9	103.2	103.6	0.53	3.6	1.8	102.2	0.14	3.0	2.6	16	LD
UFQEXZ	101.8	106.1 L	104.6	103.6	104.0	0.62	3.7	1.8	102.7	0.24	3.5	2.3	16	LX
UT92PR	107.6	111.2	112.6	112.0	110.9	2.13 *	4.3	2.2	108.6	1.31	4.0	3.8	16	LD
VB99JK	90.6 *	88.1 *	89.7 *	90.0 *	89.6	-2.59 *	2.6	1.1	95.8	-1.03	2.9	4.1	16	LC
W3BV4G	101.9	106.2	102.8	106.2	104.3	0.67	4.5	2.3	107.5	1.11	4.7	3.3	16	TC
W3TUBM	97.0	96.3	96.5	95.0	96.2	-1.12	2.7	0.8	96.5	-0.91	2.8	1.8	16	TD
WAXJ3T	96.7	98.0	98.4	98.3	97.8	-0.76	3.2	0.8	98.2	-0.60	3.6	0.9	16	XX
X7DX2J	96.1	89.7 *	93.5	93.0	93.1	-1.81	3.9	2.6	93.7	-1.42	3.7	3.6	8	TH
XCD48Z	100.5	100.7	102.1	105.1 H	102.1	0.19	4.8	2.1	102.0	0.11	3.8	2.3	15	LZ
XP2J2M	95.8	96.8	95.6	96.5	96.2	-1.13	3.2	0.6 L	96.3	-0.94	3.1	2.0	16	TH
XZNMJ8	97.4	98.3	99.9	98.5	98.5	-0.61	3.6	1.0	99.0	-0.44	3.7	2.5	16	EM
Y3KRDE	100.3	101.5	99.0	99.1	100.0	-0.28	4.4	1.2	97.6	-0.71	4.5	2.5	16	LC
YVZLKD	100.0	95.5	93.6	92.7	95.4	-1.29	4.0	3.2	98.7	-0.51	4.2	3.2	16	LC
ZK4X9B	106.4	111.3	111.5	108.9	109.5	1.84	4.5	2.4	110.1	1.58	3.8	2.1	16	LD
ZWF2TD	106.0	107.8	106.8	105.7	106.6	1.18	3.4	0.9	107.0	1.01	3.9	1.1	12	LZ

Consensus (All Labs) Results									
Wk Mean	101.74	101.49	101.91	101.65	Month Mean	101.26	Grand Mean	101.42	
Avg SDr	3.76	3.72	3.72	3.65	Avg SDr	3.74	Avg SDr	4.07	
SD btwn Labs	5.16	5.46	5.37	5.68	SD btwn Labs	4.51	SD btwn Labs	5.46	
Labs Includ	52	52	52	51	SD btwn Wks	3.44	SD btwn Wks	3.68	
Labs Exclud	3	2	2	2	Labs Includ	51	Labs Includ	55	
Labs not rcvd	0	1	1	2					



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(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

(EN) - Emerson 2200

(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



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
2A2L6U	82.7	78.5	83.0	80.9	81.3	0.25	3.2	2.1	84.3	1.12	3.3	3.0	12	MB
2LTJE8	83.5	62.5 XH	87.1	85.3	79.6	-0.14	5.6	11.5 H	79.4	-0.18	5.5	11.2 H	8	LC
2PVULK	67.4 *H	66.2 XH	67.2 *H	68.4 *H	67.3	-3.06 X	8.4	0.9	71.3	-2.30 *	9.0	4.9	8	MB
2YYLVU	80.0	76.5 H	84.9	84.7	81.5	0.30	4.6	4.1	82.7	0.70	4.1	2.9	12	LC
3M2XG7	81.3	81.2	81.2	82.8	81.6	0.32	2.6	0.8	82.4	0.62	2.9	1.5	12	LD
68JETF	83.6	84.8	85.6	86.6	85.2	1.16	3.0	1.3	84.5	1.17	3.3	1.8	12	LX
6AKFTD	78.4	78.3	78.9	78.2	78.4	-0.42	3.5	0.3 L	76.7	-0.88	3.5	2.2	12	LC
6LKFGX	80.3	80.0	78.3	79.7 L	79.6	-0.16	1.9	0.9	80.1	0.01	1.8	1.0	12	LZ
6QV2GA	82.5	82.3	74.5	83.2	80.6	0.09	1.9	4.1	82.4	0.62	2.1	2.7	12	LC
6Z7UUX	87.8	81.2	82.8	81.4	83.3	0.73	3.5	3.1	84.0	1.04	3.4	2.2	11	LD
6ZXLEV	78.0	79.3	79.8	80.4	79.4	-0.20	3.4	1.0	78.1	-0.52	3.4	1.8	10	LD
77JYTN	76.5	79.4	76.5	78.8	77.8	-0.57	4.1	1.5	75.7	-1.14	3.8	2.8	12	LC
7F87RZ	81.5	83.5	82.9	84.3	83.1	0.67	2.4	1.2	82.4	0.61	2.6	1.2	12	EM
8LVB3G	83.5	73.0	74.3	82.1	78.2	-0.48	3.7	5.3	76.4	-0.95	3.5	4.2	9	LC
8XLVFX	76.3	73.9	74.3	76.0	75.1	-1.21	2.8	1.2	75.7	-1.16	2.8	1.1	12	EM
9JNC7E	77.6	81.3	76.8	76.9	78.2	-0.49	3.1	2.1	80.5	0.12	3.2	3.3	12	XX
9VVGf8	75.6	77.6	77.9	77.3	77.1	-0.74	2.9	1.0	76.6	-0.92	2.7	3.3	12	LC
ANPMZZ	77.3	79.9	79.5	75.2	78.0	-0.54	2.7	2.2	77.1	-0.79	3.1	1.5	11	LD
AP8QRY	80.5	78.8	79.7	79.6	79.7	-0.14	2.7	0.7	79.4	-0.18	2.7	0.6	8	LD
BBLKBP	79.6	78.4	78.5	77.5	78.5	-0.42	2.8	0.9	79.7	-0.09	3.3	1.5	12	EM
C3YCPC	77.9	78.1 L	77.5 L	77.1	77.6	-0.61	1.7	0.5 L	76.9	-0.83	2.4	1.9	12	LD
CPB6X3	69.2 *	74.6	73.4	74.4	72.9	-1.73	4.1	2.5	75.1	-1.32	3.2	3.3	12	LD
DL34RR	81.0	80.3	80.5	78.5	80.1	-0.04	2.5	1.1	81.2	0.31	2.6	1.4	12	TH
DMLLLN	79.2	77.5	78.9	80.9	79.1	-0.27	4.1	1.4	78.8	-0.34	3.6	2.3	10	LD
DQ2Q4Y	85.5	84.9	85.1	85.7	85.3	1.19	2.9	0.4 L	83.9	1.00	3.3	3.2	11	LC
DRKJCN	78.6	72.5	76.4	79.5	76.7	-0.83	3.2	3.1	80.7	0.16	2.7	3.8	12	LC
EDUFUH	70.0 *	No Data	No Data	No Data	70.0	-2.41 *	1.8	0.0 L	74.8	-1.39	3.3	6.3 H	3	LZ
EZMCM3	80.0	80.5	79.8	81.6	80.5	0.05	2.3	0.8	78.6	-0.38	2.4	2.3	12	LC
FEBGQ2	80.3	80.3	80.7 L	79.8	80.3	0.01	2.8	0.4 L	80.7	0.17	3.0	1.5	12	LC
HLUE69	81.7	81.8	81.6	81.8	81.7	0.35	2.8	0.1 L	82.3	0.60	2.4	0.9	12	LD
KCXXB3	84.7	84.5	78.9	84.0	83.0	0.65	3.1	2.8	83.0	0.78	3.1	2.8	4	LD
KEPRCD	79.2 L	79.7	78.7	77.6	78.8	-0.34	1.7	0.9	78.1	-0.52	2.0	1.2	12	EN
KMHRHB	83.1	88.2	76.4 H	84.0	82.9	0.63	4.0	4.9	82.1	0.53	4.2	4.1	12	LZ
KREPE2	91.5 *	81.9	97.6 XH	90.0 *	90.3	2.36 *	4.6	6.5 H	89.8	2.57 *	4.3	4.8	8	LD
LMFWJJ	93.8 *	77.8	89.2 *	91.3 *	88.0	1.84	4.0	7.0 H	84.1	1.06	5.3	7.3 H	12	LC

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
LUU7Z7	83.4	83.7	83.2	No Data	83.4	0.75	2.3	0.2 L	82.4	0.63	2.3	1.1	11	LZ
MYHUX4	80.3	81.6	81.8	80.3	81.0	0.18	2.8	0.8	80.4	0.08	2.6	1.0	12	LC
NNKQ7Z	77.4	81.1	79.4	79.2 L	79.3	-0.23	1.9	1.5	77.3	-0.72	2.0	1.8	12	EM
Q3R792	91.3 *H	88.9 *H	87.0 H	87.6 H	88.7	2.00	6.7	1.9	86.4	1.68	5.8	2.7	12	LA
QX8PCJ	86.0	84.0	85.0	84.6	84.9	1.10	3.0	0.8	83.0	0.79	3.3	4.1	12	LZ
TUAAK7	83.5	83.5	82.3	83.1	83.1	0.68	2.3	0.6	81.4	0.34	2.4	1.5	12	LD
UFQEXZ	83.5	84.5	84.3	84.0	84.1	0.90	2.6	0.4 L	82.7	0.71	3.1	1.2	12	LX
UT92PR	83.8	83.9	85.6	81.6	83.7	0.82	3.3	1.6	84.2	1.10	3.5	1.6	12	LD
VB99JK	71.0	72.6 L	71.2	72.8	71.9	-1.97	2.4	0.9	74.4	-1.49	2.9	2.2	12	LC
W3BV4G	81.8	81.3	81.7	84.5	82.3	0.50	3.7	1.5	82.6	0.68	4.2	1.8	12	TC
W3TUBM	73.8 L	71.9 L	73.4 L	73.2	73.1	-1.69	1.6	0.8	74.1	-1.56	2.6	1.4	12	TD
WAXJ3T	79.6	79.0	78.3	78.0	78.7	-0.36	2.7	0.7	78.4	-0.43	2.8	0.9	12	XX
X7DX2J	74.9	71.8	69.5 *	68.1 *	71.1	-2.16 *	3.8	3.0	72.6	-1.97	3.8	3.4	8	TH
XCD48Z	85.1	83.0	80.6	81.3	82.5	0.53	2.3	2.0	81.5	0.37	3.2	2.0	12	LZ
XP2J2M	75.4	75.1	75.8	74.8	75.3	-1.18	2.7	0.4 L	75.0	-1.32	2.9	0.6	12	TH
XZNMJ8	80.0	80.3	78.1	79.5	79.5	-0.18	2.6	1.0	79.1	-0.25	2.7	1.6	12	EM
Y3KRDE	82.2	83.7	82.2	80.9	82.2	0.47	3.1	1.2	79.7	-0.09	3.0	2.3	12	LC
YVZLKD	77.6	71.7 *	74.1	76.5	75.0	-1.24	3.1	2.6	77.5	-0.67	3.5	2.5	12	LC
ZK4X9B	86.7	81.8	87.9	86.0	85.6	1.27	2.6	2.6	87.1	1.87	2.8	1.9	12	LD
ZWF2TD	83.4	85.1	84.5	83.3	84.1	0.91	3.0	0.9	83.7	0.97	3.2	1.2	12	LZ

Consensus (All Labs) Results												
Wk Mean	80.55	79.98	79.75	80.46	Month Mean	80.24				Grand Mean	80.06	
Avg SDr	3.28	3.08	3.34	3.35	Avg SDr	3.19				Avg SDr	3.47	
SD btwn Labs	5.13	4.14	4.69	4.68	SD btwn Labs	4.24				SD btwn Labs	3.79	
Labs Includ	55	52	53	53	SD btwn Wks	2.80				SD btwn Wks	3.09	
Labs Exclud	0	2	1	0	Labs Includ	54				Labs Includ	55	
Labs not rcvd	0	1	1	2								



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200

(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

(EN) - Emerson 2200

(LC) - L & W Crush Tester 48

(LX) - L & W 506

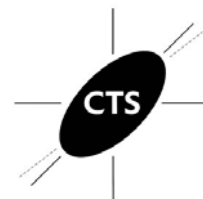
(MB) - Messmer Buchel K440

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

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



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	
2A2L6U	25.9 L	24.9 L	27.9 *L	25.5 L	26.1	1.05	0.1	1.3	25.9	0.85	0.1	0.9	16	LA
2PVULK	27.5 *L	27.3	27.1 L	27.1 L	27.2	2.01 *	0.6	0.2	27.4	2.12 *	0.6	0.6	12	BK
2XK8CR	25.3 L	24.3 L	23.2 L	24.3 L	24.3	-0.43	0.0	0.9	24.9	-0.06	0.0	1.2	16	LU
2YYLVU	25.5	26.0 L	24.9	26.0	25.6	0.66	1.0	0.5	25.7	0.66	1.1	0.6	16	LY
6AKFTD	25.0	25.0	24.6	24.9	24.9	0.06	1.3	0.2	24.8	-0.08	1.2	0.2	16	LW
6QV2GA	24.6	24.9	24.5	24.9	24.7	-0.04	2.1	0.2	24.7	-0.22	2.0	0.5	16	LW
6Z7UUX	24.5	24.4	25.0	24.3	24.6	-0.18	2.0	0.3	24.5	-0.40	2.2	0.6	16	LZ
77J9W2	26.4	25.7	27.7	27.0	26.7	1.57	1.6	0.8	27.7	2.33 *	2.0	1.0	16	LU
77JYTN	26.0	25.7	26.2	26.7	26.1	1.12	2.6	0.4	24.0	-0.75	2.6	1.8 H	16	LW
9PR9ZL	25.2	26.1	25.4	22.0	24.7	-0.09	2.3	1.8 H	26.6	1.39	2.4	1.5 H	16	LA
9VVGf8	23.0	22.5	23.6	22.0	22.8	-1.64	2.1	0.7	23.1	-1.59	2.0	0.8	16	XX
9XZAA7	26.5	27.5	27.6	26.6	27.1	1.87	2.4	0.6	27.2	1.92	2.5	0.6	16	LA
ANPMZZ	25.4	25.0	25.3	25.8	25.4	0.49	2.2	0.3	25.2	0.20	2.3	0.5	16	LU
AP8QRY	24.9	24.4	24.2	24.5	24.5	-0.22	1.6	0.3	24.6	-0.30	1.8	0.4	16	LY
C3YCPC	23.9	23.7	23.2	23.8	23.7	-0.92	2.1	0.3	24.1	-0.74	1.8	0.5	16	LW
CPB6X3	23.2	23.5	22.4	22.6	22.9	-1.52	1.9	0.5	22.7	-1.88	1.9	1.4	15	LU
DL34RR	24.4	24.2	24.3	24.0	24.2	-0.45	1.4	0.2	24.8	-0.12	1.5	2.2 H	16	TT
DQ2Q4Y	24.4 L	26.1 L	25.3 L	26.6 L	25.6	0.67	0.0	1.0	25.9	0.79	0.0	1.1	8	LZ
DRKJCN	22.2	23.1	24.1	22.8	23.0	-1.44	2.0	0.8	23.7	-1.02	2.0	0.9	16	LU
DTBWLW	26.8	25.8	26.3	24.9	26.0	0.96	2.3	0.8	25.8	0.75	2.4	1.2	16	LZ
EAEFEB	23.1 L	24.8 L	25.4	25.4 L	24.7	-0.08	0.8	1.1	24.4	-0.44	0.7	1.1	12	XX
EDUFUH	24.8 L	No Data	No Data	No Data	24.8	0.04	0.0	0.0 L	37.1	10.32 X	0.0	10.7 H	3	XX
EZMCM3	24.2	24.8	23.5	22.9	23.9	-0.75	1.7	0.8	24.1	-0.67	1.8	0.6	16	LW
FEBGQ2	24.6	21.8 *L	23.6	23.4 L	23.4	-1.16	0.7	1.2	23.9	-0.83	0.7	1.0	12	XX
H97WE4	23.8 L	24.2 L	25.1 L	24.8 L	24.5	-0.25	0.4	0.6	24.6	-0.27	0.4	0.6	16	LA
HLUE69	23.6	24.7	23.9	24.2	24.1	-0.55	1.2	0.5	23.8	-0.96	1.4	0.7	16	BK
KCXXB3	25.3 L	24.7 L	24.2 L	24.6 L	24.7	-0.06	0.5	0.5	25.4	0.43	0.6	1.2	12	LA
KEPRCD	23.2	23.3	22.1	23.0	22.9	-1.55	1.8	0.6	23.3	-1.41	2.0	0.5	16	LU
KMHRHB	23.9	24.3	24.3	24.4	24.2	-0.47	2.0	0.2	24.4	-0.44	1.9	0.5	15	LZ
LMFWJJ	26.7 L	27.4 L	27.9 *L	27.6 *L	27.4	2.16 *	0.6	0.5	26.7	1.51	0.7	0.8	16	LA
MYHUX4	25.2	25.0	25.1	25.1	25.1	0.26	1.7	0.1 L	25.0	0.07	1.9	0.4	16	LU
NHDKVH	21.9 *	21.8 *	22.7	22.1	22.1	-2.18 *	1.6	0.4	22.3	-2.20 *	1.6	0.4	15	LU
Q3R792	24.3 L	25.3 L	25.4 L	26.2 L	25.3	0.42	0.5	0.8	25.9	0.86	0.5	0.8	16	LA
TUAAK7	25.2	25.6	25.1	25.5	25.4	0.48	2.0	0.2	25.0	0.07	1.9	0.4	16	LU
VB99JK	24.3 L	24.4 L	25.1 L	24.2 L	24.5	-0.24	0.4	0.4	24.6	-0.30	0.4	0.5	16	LA



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
W3BV4G	22.7 L	26.1 L	22.4 L	23.7 L	23.7	-0.86	0.6	1.7 H	25.2	0.20	1.0	1.7 H	16	XX
WAXJ3T	24.2	23.4	24.2	24.3	24.0	-0.62	2.1	0.4	24.2	-0.65	2.1	0.6	16	XX
WJLGXT	24.7	25.1	24.5	23.9	24.6	-0.17	1.8	0.5	24.6	-0.29	1.9	0.5	8	LY
WYAWL	23.4	24.3	24.3	24.6	24.1	-0.53	2.1	0.5	24.1	-0.69	2.2	0.4	16	LW
X7DX2J	27.0	26.9	26.9	26.4	26.8	1.67	2.2	0.3	25.9	0.84	2.1	1.2	8	XX
XCD48Z	26.2	26.0	25.9	25.7	26.0	0.96	1.9	0.2	25.5	0.49	2.0	0.4	15	LW
YP2Y97	25.1	24.4	24.7	24.4	24.7	-0.10	1.2	0.3	24.8	-0.09	1.2	0.4	16	TT
YVZLKD	23.9	24.9	24.9	24.0	24.4	-0.29	2.0	0.6	24.9	-0.05	2.0	0.7	16	LW
ZZA4GK	25.7	25.8	24.6	24.5	25.2	0.31	2.3	0.7	26.0	0.94	2.3	1.8 H	11	LW

Consensus (All Labs) Results									
Wk Mean	24.72	24.86	24.85	24.67	Month Mean	24.78	Grand Mean	24.93	
Avg SDr	1.71	1.69	1.65	1.63	Avg SDr	1.67	Avg SDr	1.72	
SD btwn Labs	1.29	1.32	1.46	1.41	SD btwn Labs	1.22	SD btwn Labs	1.18	
Labs Includ	44	43	43	43	SD btwn Wks	0.70	SD btwn Wks	0.94	
Labs Exclud	0	0	0	0	Labs Includ	44	Labs Includ	43	
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

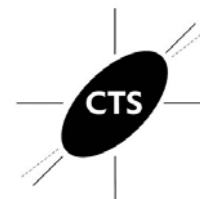
(LZ) - L & W (model not specified)

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

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



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	
2A2L6U	21.6 L	22.0 L	21.0 L	21.5 L	21.6	0.40	0.0	0.4	21.3	0.32	0.1	0.5	12	LA
2PVULK	21.5 L	21.8 L	23.4* L	22.1 L	22.2	1.07	0.2	0.8	22.1	1.36	0.3	0.6	8	BK
2XK8CR	20.8 L	20.6 L	20.7 L	20.6 L	20.7	-0.50	0.0	0.1	20.8	-0.24	0.0	0.4	12	LU
2YYLVU	21.6	21.1 L	21.3	21.8 L	21.4	0.26	0.5	0.3	21.3	0.36	0.6	0.4	12	LY
6AKFTD	21.2	21.2	21.2	21.4	21.3	0.11	1.0	0.1 L	21.3	0.31	1.0	1.2	12	LW
6QV2GA	21.0	21.9	22.1	21.0	21.5	0.33	1.1	0.6	21.2	0.20	1.3	0.5	12	LW
6Z7UUX	20.6	20.7	21.2	21.2	20.9	-0.25	1.6	0.3	20.7	-0.36	1.5	0.4	11	LZ
77J9W2	22.4	22.6	22.7	22.6	22.6	1.44	1.3	0.1	22.5	1.85	1.3	0.3	12	LU
77JYTN	22.1	22.1	23.1	23.4	22.7	1.54	2.0	0.7	20.6	-0.47	1.7	1.9 H	12	LW
9PR9ZL	21.3	21.9	21.4	25.0 X	22.4	1.25	1.6	1.8 H	22.4	1.72	1.5	1.1	12	LA
9VVGf8	19.9	19.7	19.5	19.1	19.6	-1.65	1.2	0.3	20.1	-1.12	1.3	0.8	12	XX
9XZAA7	22.1	22.2	21.9	23.1	22.3	1.21	1.2	0.5	22.2	1.39	1.2	0.4	12	LA
ANPMZZ	20.8	21.1	22.0	21.2	21.3	0.12	1.2	0.5	21.2	0.24	1.2	0.4	12	LU
AP8QRY	20.8	20.5	21.0	20.3	20.6	-0.54	1.2	0.3	20.7	-0.44	1.2	0.3	8	LY
C3YCPC	20.8	20.4	20.9	20.5	20.6	-0.56	1.2	0.2	20.7	-0.46	1.3	0.2	12	LW
CPB6X3	19.0*	19.4	20.1	19.2	19.4	-1.78	1.5	0.5	19.3	-2.17*	1.2	1.8 H	12	LU
DL34RR	21.1	20.9	21.0	20.5	20.9	-0.30	1.0	0.3	20.8	-0.28	1.1	0.2	12	TT
DQ2Q4Y	20.9 L	22.0 L	21.4 L	20.2 L	21.1	-0.05	0.0	0.7	21.1	0.11	0.0	0.7	4	LZ
DRKJCN	19.4	20.0	19.5	20.4	19.8	-1.39	1.0	0.4	20.1	-1.12	1.2	0.4	12	LU
DTBWLW	22.6	21.0	21.2	22.6	21.8	0.68	1.7	0.9	21.3	0.30	1.5	0.8	12	LZ
EAEFEB	21.1	20.8	20.4 L	22.2	21.2	-0.01	0.5	0.8	20.4	-0.75	0.6	1.3	12	XX
EDUFUH	19.3 L	No Data	No Data	No Data	19.3	-1.94	0.0	0.0 L	19.3	-2.16*	0.0	0.0 L	1	XX
EZMCM3	20.6	20.6	21.2	20.0	20.6	-0.56	1.1	0.5	20.6	-0.51	1.2	0.4	12	LW
FEBGQ2	19.7 L	20.1 L	21.0	19.9 L	20.2	-1.02	0.5	0.6	20.8	-0.31	0.8	1.3	12	XX
H97WE4	21.0 L	21.4 L	21.2 L	21.4 L	21.2	0.07	0.2	0.2	21.0	-0.07	0.2	0.4	12	LA
HLUE69	20.7	20.6	20.5	20.7	20.6	-0.56	0.9	0.1	20.6	-0.52	0.9	0.3	12	BK
KCXXB3	22.0 L	22.4 L	20.7 L	19.5 L	21.1	-0.04	0.2	1.3 H	21.1	0.12	0.2	1.3	4	LA
KEPRCD	19.0*	18.4*	18.8*	18.4*	18.7	-2.55*	1.2	0.3	19.1	-2.31*	1.2	0.7	12	LU
KMHRHB	21.4	20.9	20.8	21.3	21.1	-0.08	1.1	0.3	21.4	0.42	1.2	0.4	12	LZ
LMFWJJ	21.9 L	23.1 L	22.7 L	22.2 L	22.5	1.33	0.3	0.5	22.7	1.99	0.3	0.4	12	LA
MYHUX4	21.7	21.6	22.1	21.9	21.8	0.66	1.3	0.2	21.6	0.68	1.2	0.3	12	BK
NHDKVH	18.9*	19.3	19.3	20.1	19.4	-1.80	1.1	0.5	19.3	-2.12*	1.2	0.4	12	LU
Q3R792	21.9 L	23.4 L	21.5 L	22.5 L	22.3	1.18	0.3	0.8	22.1	1.27	0.3	0.7	12	LA
TUAAK7	21.1	20.9	21.1	22.0	21.3	0.13	1.2	0.5	21.2	0.22	1.2	0.4	12	LU
VB99JK	22.0 L	22.1 L	21.8 L	22.9 L	22.2	1.03	0.3	0.5	21.5	0.61	0.3	0.7	12	LA



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
W3BV4G	20.4 L	22.4 L	18.9 *L	20.7 L	20.6	-0.59	0.3	1.4 H	21.3	0.39	0.6	1.9 H	12	XX
WAXJ3T	20.9	21.4	21.5	20.8	21.1	-0.05	1.2	0.4	21.0	-0.04	1.2	0.2	12	XX
WJLGXT	20.9	20.8	21.0	21.1	21.0	-0.21	1.0	0.1	21.0	-0.09	1.0	0.1 L	4	LY
WYAWL	20.8	21.0	20.9	20.7	20.9	-0.31	1.3	0.1	20.8	-0.33	1.3	0.3	12	LW
X7DX2J	22.8	22.8	22.4	22.3	22.6	1.43	1.4	0.3	21.3	0.34	1.4	1.8 H	8	XX
XCD48Z	22.5	22.8	21.3	22.0	22.1	1.00	1.4	0.6	21.6	0.66	1.3	0.9	12	LW
YP2Y97	21.1	21.2	21.2	21.3	21.2	0.03	0.8	0.1 L	21.1	0.07	0.9	0.3	12	TT
YVZLKD	21.4	21.6	21.9	21.5	21.6	0.43	1.1	0.2	21.9	1.01	1.3	0.3	12	LW
ZZA4GK	21.9	22.5	22.4	22.0	22.2	1.04	1.5	0.3	21.0	-0.07	1.7	2.1 H	10	LW

Consensus (All Labs) Results

Wk Mean	21.05	21.27	21.18	21.19	Month Mean	21.16	Grand Mean	21.03
Avg SDr	0.99	1.14	1.08	1.09	Avg SDr	1.09	Avg SDr	1.10
SD btwn Labs	0.97	1.07	1.02	1.12	SD btwn Labs	0.98	SD btwn Labs	0.82
Labs Includ	44	43	43	42	SD btwn Wks	0.59	SD btwn Wks	0.88
Labs Exclud	0	0	0	1	Labs Includ	44	Labs Includ	44
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
2A2L6U	114.6	-0.85	8.7	116.8	-0.91	9.3	2	LA
2PVULK	99.5	-1.71	22.2	126.4	-0.53	27.0	2	EV
2YYLVU	97.5	-1.83	9.4	99.1	-1.60	8.2	2	EV
6Z7UUX	133.6	0.23	23.4	147.5	0.30	20.0	2	LA
77JYTN	207.0	4.42 X	17.8	188.1	1.89	16.0	2	EV
9PR9ZL	120.2	-0.53	14.2	115.3	-0.96	11.5	2	LA
DQ2Q4Y	128.2	-0.07	14.1	129.2	-0.42	13.2	2	LA
DTBWLJU	159.3	1.70	44.9	185.7	1.79	77.1	2	EV
EZMCM3	138.0	0.49	17.5	137.0	-0.12	14.4	2	XX
FEBGQ2	349.9	12.57 X	28.1	349.9	8.22 X	28.1	1	XX
H97WE4	122.5	-0.40	8.9	120.4	-0.76	8.8	2	EV
KEPRCD	144.9	0.88	14.6	147.2	0.29	16.0	2	EV
LMFWJJ	151.4	1.25	21.7	150.1	0.40	16.3	2	LA
NHDKVH	141.5	0.68	8.6	141.8	0.07	9.1	2	EV
Q3R792	237.1	6.13 X	31.3	166.7	1.05	23.7	2	LA
TUAAK7	140.0	0.60	6.8	141.6	0.06	10.4	2	EV
VB99JK	137.3	0.44	10.1	139.3	-0.02	14.3	2	EV
W2HZHU	129.1	-0.02	9.8	126.4	-0.53	8.4	2	EV
WYAWL	100.6	-1.65	8.8	99.0	-1.60	11.9	2	EV
XCD48Z	137.6	0.46	14.0	139.7	-0.01	12.7	2	EV
ZK4X9B	135.2	0.33	12.4	181.0	1.61	76.1	2	EV

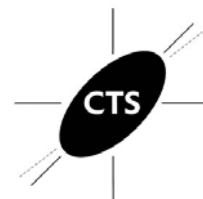
Consensus (All Labs) Results			
Month Mean	129.50	Grand Mean	139.92
Avg SDr	17.38	Avg SDr	28.02
SD btwn Labs	17.53	SD btwn Labs	25.54
Labs Incd	18	Labs Incd	20

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
6ZXLEV	181.3	1.08	7.9	174.1	0.47	9.0	4	SC
ANPMZZ	110.8	-2.09 *	10.7	141.0	-1.56	13.2	4	HZ
C3YCPC	182.0	1.11	5.2	175.8	0.57	4.5	4	TM
DRKJCN	166.6	0.41	4.4	174.7	0.51	7.7	4	XX
DTBWLU	159.0	0.07	5.1	154.6	-0.73	17.1	4	TM
DYLV8K	156.2	-0.05	3.2	158.1	-0.52	5.3	4	TM
EZMCM3	188.8	1.41	6.6	195.1	1.76	13.7	3	HY
FEBGQ2	157.0	-0.02	11.0	200.3	2.08*	17.3	3	SC
MYHUX4	170.6	0.59	6.8	174.7	0.51	6.4	4	HY
Q3R792	148.6	-0.39	5.3	156.0	-0.65	4.8	4	TM
TUAAK7	156.0	-0.06	5.2	157.2	-0.57	4.7	4	TM
UFQEXZ	134.5	-1.03	11.1	145.3	-1.30	13.8	4	SC
UT92PR	166.1	0.39	4.8	169.7	0.20	5.6	4	SC
VB99JK	171.4	0.63	36.9	172.3	0.36	23.9	4	HY
W3BV4G	156.0	-0.06	3.4	155.5	-0.68	7.0	4	SC
ZK4X9B	113.2	-1.99	6.9	159.3	-0.44	7.8	3	HY

Consensus (All Labs) Results			
Month Mean	157.38	Grand Mean	166.47
Avg SDr	11.44	Avg SDr	11.54
SD btwn Labs	22.26	SD btwn Labs	16.28
Labs Incd	16	Labs Incd	16

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

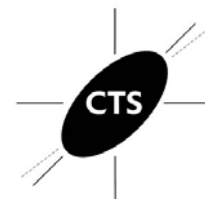
(HZ) - Huygen Internal Bond Tester with AccuPress

(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
2LTJE8	28.0	0.55	2.9	28.5	0.77	2.1	2	ZZ
77JYTN	26.4	-0.20	1.1	26.7	-0.30	1.3	4	ZZ
C3YCPC	25.8	-0.47	3.0	24.7	-1.42	3.7	4	ZZ
DTBWLU	25.4	-0.67	3.0	25.5	-0.97	2.7	4	ZZ
EZMCM3	25.0	-0.86	1.2	25.9	-0.74	1.5	4	ZZ
FEBGQ2	26.0	-0.39	1.4	24.9	-1.30	1.7	3	ZZ
KCXXB3	30.2	1.59	3.6	28.5	0.77	2.6	2	ZZ
KEPRCD	25.0	-0.88	1.3	24.8	-1.36	1.4	4	ZZ
KKVHLB	26.5	-0.15	1.9	27.7	0.30	3.2	4	ZZ
MYHUX4	24.4	-1.14	0.5	25.7	-0.87	0.5	4	ZZ
NHDKVH	23.8	-1.42	1.8	27.1	-0.07	2.6	4	ZZ
Q3R792	24.8	-0.95	3.8	29.8	1.49	3.2	4	ZZ
TUAAK7	29.2	1.12	1.8	28.9	1.00	1.7	4	ZZ
VB99JK	29.4	1.19	2.8	28.3	0.67	2.2	4	ZZ
W3BV4G	30.4	1.68	1.7	30.2	1.75	1.1	4	ZZ
WYAWL	26.8	-0.01	0.8	27.2	-0.02	1.1	4	ZZ
YVZLKD	29.0	1.02	2.9	27.7	0.30	2.7	4	ZZ

Consensus (All Labs) Results			
Month Mean	26.83	Grand Mean	27.18
Avg SDr	2.30	Avg SDr	2.25
SD btwn Labs	2.13	SD btwn Labs	1.73
Labs Incd	17	Labs Incd	17

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
2PVULK	53.4	1.30	3.3	52.9	0.96	3.2	2	XX
6LKFGX	50.1	-1.24	1.7	50.4	-0.01	3.0	4	XX
6ZXLEV	51.4	-0.22	2.1	45.3	-1.93	2.2	4	LP
9JNC7E	50.7	-0.77	1.8	50.7	0.12	2.4	4	GG
AFCVCM	51.4	-0.20	1.7	52.0	0.59	1.9	4	XX
AP8QRY	49.5	-1.70	1.7	50.4	-0.02	1.8	4	LP
C3YCPC	51.0	-0.55	1.9	52.5	0.80	2.8	4	HG
DQ2Q4Y	51.8	0.09	3.0	52.4	0.77	3.1	2	TL
DTBWLU	53.6	1.50	4.3	48.0	-0.93	3.2	4	XX
EZMCM3	51.6	-0.06	1.0	51.7	0.48	1.8	4	XX
FEBGQ2	51.9	0.17	3.2	51.7	0.49	3.0	3	HG
KCXXB3	53.4	1.37	1.3	53.4	1.13	1.8	2	XX
KKVHLB	46.2	-4.30 X	1.8	47.2	-1.19	3.0	4	GA
LMFWJJ	50.6	-0.84	1.6	49.7	-0.28	1.7	4	LA
MYHUX4	51.3	-0.28	3.4	52.1	0.63	2.8	4	HG
NHDKVH	51.0	-0.55	1.7	50.5	0.04	1.8	4	LP
Q3R792	51.8	0.06	2.2	45.7	-1.77	1.7	4	LA
VB99JK	54.1	1.91	2.4	54.3	1.49	2.6	4	LA
YVZLKD	44.4	-5.69 X	1.3	46.8	-1.38	1.6	4	LP

Consensus (All Labs) Results			
Month Mean	51.68	Grand Mean	50.40
Avg SDr	2.42	Avg SDr	2.46
SD btwn Labs	1.28	SD btwn Labs	2.64
Labs Incd	17	Labs Incd	19

Instrument Code List as Reported by the Labs

- (GA) - Gurley Precision #4340 Automatic Densometer
- (GG) - Gurley Precision #4320 Densometer
- (HG) - Technidyne - Hagerty Model #1 and Profile System
- (LA) - L & W Autoline
- (LP) - L & W Air Permeance Tester SE 166
- (TL) - Teledyne Gurley Densometer #4110, Oil Flotation
- (XX) - Instrument make/model not specified by lab

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



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
2A2L6U	57.2*	64.5	57.1*L	59.2	59.5	-1.32	3.2	3.5 H	58.7	-1.85	4.6	4.4 H	16	MB
2PVULK	58.2	57.2*	56.8*	56.2*	57.1	-2.60*	2.5	0.8	59.2	-1.62	3.9	2.7	12	MB
3M2XG7	62.4	62.4	60.5	62.0	61.8	-0.10	2.7	0.9	61.9	-0.12	2.7	0.9	16	LD
68JETF	63.6	63.1	62.3	60.7	62.4	0.22	2.4	1.3	63.3	0.60	3.3	1.9	16	LD
6AKFTD	62.7	62.4	62.5	60.6 L	62.0	0.03	2.3	1.0	61.8	-0.22	2.3	0.7	16	LC
6ALU68	65.9	63.3	67.1*	65.8	65.5	1.89	3.3	1.6	65.8	1.98	3.9	2.2	12	LC
6QV2GA	65.1	63.9	63.5	65.0	64.4	1.29	3.1	0.8	64.6	1.31	2.6	1.3	16	LC
6Z7UUX	57.5	62.8	59.5	62.3	60.5	-0.79	2.9	2.5	61.1	-0.55	3.6	1.8	16	LD
78U78X	62.4 H	62.4 H	62.4 H	62.4 H	62.4	0.22	10.2	0.0 L	61.9	-0.15	11.4	2.5	8	LC
96N949	64.5	62.1	62.6	62.2	62.8	0.46	3.0	1.1	62.9	0.41	3.1	0.8	16	LZ
9VVGf8	61.8	60.3	64.1	64.2	62.6	0.33	2.6	1.9	63.5	0.74	2.6	1.4	16	TM
9XZAA7	62.3	64.1	62.5	64.0	63.2	0.66	3.3	0.9	61.7	-0.25	1.9	1.2	16	XX
AFCVCM	61.9	61.5	61.6	61.3	61.6	-0.23	2.4	0.2 L	61.8	-0.19	2.6	0.8	16	LD
ANPMZZ	62.5	61.3	No Data	No Data	61.9	-0.04	4.0	0.8	62.4	0.15	3.1	1.0	13	LC
AP8QRY	61.7	60.7	60.9	61.4	61.2	-0.44	1.9	0.4	60.9	-0.70	1.9	0.5	16	LD
AWMG9J	65.4	65.6	60.2	66.1	64.3	1.25	2.9	2.8	64.4	1.21	3.2	2.9 H	15	XX
BEZET8	63.6	62.0	62.2 L	62.6	62.6	0.33	1.6	0.7	63.5	0.71	1.7	0.7	16	LC
DL34RR	62.0	61.4	60.6	62.0	61.5	-0.27	2.6	0.7	60.7	-0.77	2.8	1.5	16	TH
DPCHWJ	62.5	62.7	63.0	62.2	62.6	0.33	2.2	0.3	62.7	0.29	2.3	0.4	16	LD
DRKJCN	70.9 X	60.8	66.2	62.1	65.0	1.62	3.5	4.6 H	66.2	2.19*	3.4	3.6 H	16	LC
EDUFUH	54.7 X	No Data	No Data	No Data	54.7	-3.90 X	3.0	0.0 L	59.7	-1.30	2.5	3.2 H	5	LZ
EZMCM3	61.9	64.1	62.1	63.2	62.8	0.45	2.9	1.0	63.5	0.70	3.1	1.0	16	LC
FB78HL	64.4	66.4*	65.9	65.8	65.6	1.95	3.1	0.9	64.8	1.42	3.0	1.8	12	TM
GEVAHD	60.8	61.6	62.3	61.5	61.6	-0.23	2.7	0.6	62.3	0.07	2.3	1.1	16	LD
KMHRHB	59.4	60.5	64.8	61.1 H	61.5	-0.28	4.3	2.3	62.6	0.22	3.7	2.9 H	15	LZ
KNT498	59.7 L	59.0	62.6	59.7	60.3	-0.93	2.8	1.6	61.5	-0.37	3.0	1.6	15	LC
LUU7Z7	62.6	61.7	66.4	No Data	63.6	0.85	2.7	2.5	63.9	0.93	2.7	1.4	14	LZ
M6R3A7	62.2	62.5	63.2	62.3	62.6	0.30	2.1	0.5	62.6	0.23	2.4	0.4	16	LD
MYHUX4	59.4	60.4	63.1	60.8	60.9	-0.58	3.2	1.6	61.0	-0.61	3.3	1.2	16	LC
NHDKVH	63.9	62.8	61.2	60.7	62.1	0.09	2.3	1.5	61.5	-0.37	2.8	1.6	16	LZ
NNKQ7Z	64.2	65.6	65.1	65.2 L	65.0	1.63	2.8	0.6	64.5	1.27	2.4	1.0	16	EM
PJ6XX2	59.3	60.0	59.7	61.2	60.1	-1.03	2.8	0.8	60.5	-0.87	3.0	1.1	16	LD
QT66TR	59.7	61.9	61.4	60.6	60.9	-0.59	2.4	1.0	61.1	-0.55	2.4	0.9	16	EM
TUAAK7	62.2	61.3	60.6	63.4	61.9	-0.06	2.7	1.2	61.5	-0.37	2.6	1.1	16	LD
TWMNLM	62.6	61.1	62.5	63.9	62.5	0.29	3.1	1.1	63.7	0.82	3.1	1.8	16	LC



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
UFQEXZ	60.8	59.5	60.6	59.6	60.1	-1.00	2.7	0.7	59.8	-1.25	2.4	1.5	16	LX
UT92PR	64.6	67.3* H	63.9 H	60.0	64.0	1.05	5.3	3.0	65.4	1.74	4.2	1.9	16	LD
W3TUBM	61.1	62.8	62.5 L	62.8 L	62.3	0.16	1.4	0.8	62.7	0.27	1.6	0.8	16	TD
WYAWL	60.6	59.3	59.2 L	59.1 L	59.6	-1.30	1.7	0.7	59.4	-1.49	1.6	0.6	16	TH
X7DX2J	56.1*	59.8	58.3	59.0	58.3	-1.97	3.3	1.6	58.3	-2.08*	3.3	1.6	4	TH
Y3KRDE	62.3	60.4	61.8	60.6	61.3	-0.39	2.8	0.9	61.2	-0.52	3.9	2.1	16	LC
YP2Y97	61.3	60.2	60.4	60.2	60.5	-0.77	4.2	0.5	61.6	-0.32	5.2	2.3	16	TG
YVZLKD	65.9	61.3	64.5	63.8	63.9	1.01	3.1	1.9	62.5	0.19	3.0	1.4	16	LC
ZZA4GK	60.9	57.4*	58.6 L	59.7 L	59.1	-1.52	1.4	1.5	60.4	-0.93	1.4	1.4	14	LC

Consensus (All Labs) Results

Wk Mean	61.88	61.88	62.06	61.86	Month Mean	61.98	Grand Mean	62.16
Avg SDr	3.09	3.25	3.34	3.34	Avg SDr	3.27	Avg SDr	3.43
SD btwn Labs	2.31	2.14	2.37	2.12	SD btwn Labs	1.87	SD btwn Labs	1.86
Labs Includ	42	43	42	41	SD btwn Wks	1.59	SD btwn Wks	1.80
Labs Exclud	2	0	0	0	Labs Includ	43	Labs Includ	44
Labs not rcvd	0	1	2	3				

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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
6AKFTD	72.0	72.6	73.2	71.0	72.2	-0.66	1.8	0.9	72.1	-1.07	1.7	0.8	16	LC
6LKFGX	70.9	72.2	72.4	70.9	71.6	-0.89	1.6	0.8	72.5	-0.84	1.4	0.8	16	XX
6QV2GA	73.2	75.5	74.3	72.0	73.7	-0.05	2.2	1.5	74.7	0.81	2.1	1.6	16	LC
AWMG9J	73.4	73.4	62.9 XH	73.1	70.7	-1.25	3.0	5.2 H	71.2	-1.74	3.9	4.6 H	16	TU
GEVAHD	72.5	72.5	73.2	72.9	72.8	-0.43	2.7	0.3 L	74.1	0.36	2.2	1.2	16	LD
KMHRHB	76.8 *	80.3 *	74.3 H	76.9	77.1	1.29	3.0	2.5	75.5	1.37	3.6	3.0	15	LZ
KNT498	71.6 H	75.7	73.3	74.9	73.9	0.02	3.3	1.8	75.1	1.05	3.1	2.4	16	LZ
LUU7Z7	76.2	73.5	77.0	No Data	75.6	0.69	2.4	1.8	74.9	0.90	2.2	1.3	14	LD
MYHUX4	72.5	71.8	73.2	76.3	73.4	-0.16	2.1	2.0	73.7	0.09	2.8	1.7	16	XX
TWMNLM	81.3 X	78.8	78.7 *	80.0 *	79.7	2.34 *	2.5	1.2	79.5	4.24 X	2.6	2.0	16	LC
W3TUBM	72.6	72.9	72.0 L	72.3 L	72.5	-0.55	1.1	0.4 L	73.2	-0.30	2.1	1.2	16	TD
YVZLKD	72.9	72.9	72.7	73.2	72.9	-0.36	2.7	0.2 L	72.7	-0.65	2.6	1.1	16	XX

Consensus (All Labs) Results														
Wk Mean	73.15	74.33	74.01	73.94	Month Mean	73.83			Grand Mean	73.62				
Avg SDr	2.87	2.14	2.39	2.16	Avg SDr	2.44			Avg SDr	2.62				
SD btwn Labs	1.79	2.73	2.05	2.81	SD btwn Labs	2.51			SD btwn Labs	1.38				
Labs Includ	11	12	11	11	SD btwn Wks	2.02			SD btwn Wks	2.11				
Labs Exclud	1	0	1	0	Labs Includ	12			Labs Includ	11				
Labs not rcvd	0	0	0	1										

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

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

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

(LD) - L&W Crush Tester 248

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

(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
68JETF	45.9	47.6	46.6	47.2 H	46.8	1.41	3.8	0.7	48.0	1.63	3.0	1.4	16	LZ
6ALU68	41.5	40.9	42.1	41.9	41.6	-0.78	2.2	0.5	40.6	-0.86	2.2	1.2	12	LC
6Z7UUX	43.2	40.9	42.9	44.3	42.8	-0.26	2.6	1.4	43.7	0.20	2.3	1.4	16	LD
AFCVCM	43.6	41.6	42.2	42.0	42.3	-0.47	3.1	0.9	42.9	-0.06	3.8	1.1	16	LD
ANPMZZ	41.0	41.0	42.2	40.4	41.1	-0.97	2.6	0.7	40.9	-0.74	2.3	0.7	15	LD
BEZET8	47.1	48.2*	50.0 XL	47.2 L	48.1	1.96	1.6	1.3	47.1	1.34	1.8	2.2	16	LC
EDUFUH	34.8*	No Data	No Data	No Data	34.8	-3.62 X	3.6	0.0 L	37.7	-1.83	2.8	2.1	5	LZ
FB78HL	49.3	45.8	46.5	47.4	47.3	1.60	2.5	1.5	48.2	1.72	2.3	1.7	12	LZ
MYHUX4	43.9	41.5	42.6	43.2	42.8	-0.28	3.5	1.0	43.9	0.25	2.9	1.1	16	LC
PJ6XX2	40.8 L	41.9	41.8	45.2	42.4	-0.43	2.6	1.9	42.4	-0.25	2.3	1.1	16	LD
QT66TR	41.3	42.0	40.7	41.8	41.5	-0.84	2.1	0.6	41.8	-0.45	2.3	0.8	16	LC
XP2J2M	40.7	41.9	41.7	41.9	41.6	-0.80	2.1	0.5	41.1	-0.67	1.9	0.5	16	TH
Y3KRDE	44.4	43.5	43.6	44.2	43.9	0.20	3.0	0.4	43.4	0.09	3.0	1.0	16	LC
YVZLKD	44.9	41.4	42.9	41.3	42.6	-0.35	2.1	1.7	42.0	-0.37	2.1	2.1	16	LC

Consensus (All Labs) Results

Wk Mean	43.03	42.94	42.98	43.69	Month Mean	43.45	Grand Mean	43.11
Avg SDr	2.73	2.55	2.66	2.88	Avg SDr	2.67	Avg SDr	2.55
SD btwn Labs	3.48	2.58	1.82	2.45	SD btwn Labs	2.39	SD btwn Labs	2.98
Labs Includ	14	13	12	13	SD btwn Wks	1.13	SD btwn Wks	1.41
Labs Exclud	0	0	1	0	Labs Includ	13	Labs Includ	14
Labs not rcvd	0	1	1	1				

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

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

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



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	
2PVULK	15.5 L	15.9 L	15.4 L	15.5 L	15.6	0.98	0.2	0.2	16.1	1.96	0.3	0.6	12	BK
6Z7UUX	15.1	14.4	14.9	14.6	14.7	-0.34	1.3	0.3	14.9	-0.05	1.3	0.5	16	LZ
96N949	14.6	15.4	15.4	15.4	15.2	0.39	1.3	0.4	15.1	0.36	1.2	0.4	16	LW
BEZET8	14.9	15.2	15.0	15.6	15.2	0.36	0.8	0.3	15.4	0.73	0.7	0.8	15	XX
CPB6X3	14.1	14.4	13.6	15.2	14.3	-0.99	1.8	0.7 H	13.9	-1.70	1.4	0.9	16	LB
DL34RR	14.1	14.2	14.2	14.1	14.2	-1.26	0.9	0.1	14.7	-0.32	1.0	0.5	16	TT
DPCHWJ	14.8	15.0	15.1	14.6	14.9	-0.14	1.4	0.2	14.7	-0.34	1.2	0.3	16	LZ
FB78HL	15.6	16.4	16.7 *	16.1	16.2	1.93	1.3	0.5	15.4	0.74	1.5	1.0 H	12	LZ
GEVAHD	14.5	14.1	14.7	14.2	14.4	-0.94	0.9	0.3	14.8	-0.13	0.9	0.5	16	LA
M6R3A7	14.5	14.9	15.0	14.7	14.8	-0.32	1.3	0.2	14.8	-0.20	1.3	0.2	16	LB
MYHUX4	15.2	15.1	15.2	14.8	15.1	0.16	1.4	0.2	15.0	0.19	1.2	0.3	16	LU
NHDKVH	13.8	13.8	13.7	14.4	13.9	-1.63	1.1	0.3	13.6	-2.11 *	1.1	0.4	15	LU
QT66TR	14.7	14.1	14.3	15.1	14.5	-0.66	1.0	0.4	14.5	-0.74	1.1	0.6	15	LB
WYAWL	15.1	15.0	14.7	15.0	14.9	-0.03	1.2	0.2	14.8	-0.20	1.2	0.2	16	LW
X7DX2J	16.1 *	16.0	16.1	15.4	15.9	1.49	1.3	0.3	15.4	0.82	1.2	0.7	8	XX
ZZA4GK	15.3	16.0	15.7	15.4	15.6	0.99	1.5	0.3	15.5	1.01	1.3	0.9	11	LW

Consensus (All Labs) Results

Wk Mean	14.85	15.01	14.97	15.02	Month Mean	14.96	Grand Mean	14.90
Avg SDr	1.18	1.13	1.17	1.38	Avg SDr	1.22	Avg SDr	1.16
SD btwn Labs	0.62	0.79	0.81	0.56	SD btwn Labs	0.64	SD btwn Labs	0.61
Labs Includ	16	16	16	16	SD btwn Wks	0.34	SD btwn Wks	0.60
Labs Exclud	0	0	0	0	Labs Includ	16	Labs Includ	16
Labs not rcvd	0	0	0	0				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LB) - L & W Model 152

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

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

(LA) - L & W Autoline

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

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

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