

Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #473 (B)- February 2009

[Introduction to the Containerboard Program](#)

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

[Instrument Manufacturer Contacts](#)

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BOX3</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT3</u>	<u>Edgewise Compressive Strength by Wax Dip (T811), Corrugated board</u>
<u>205</u>	<u>42X1</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>207</u>	<u>36U3</u>	<u>Mullen Burst of Linerboard, 36 lb Linerboard</u>
<u>215</u>	<u>42X1</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>217</u>	<u>36U3</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 36 lb Linerboard</u>
<u>223</u>	<u>42X1</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>225</u>	<u>36U3</u>	<u>STFI of Linerboard, 36 lb Linerboard</u>
<u>228</u>	<u>42X</u>	<u>Roughness - Stylus Method, 42 lb Linerboard</u>
<u>231</u>	<u>42X1</u>	<u>Internal Bond Strength, Linerboard, 42 lb Linerboard</u>
<u>234</u>	<u>42X1</u>	<u>Coefficient of Static Friction - Inclined Plane, 42 lb Linerboard</u>
<u>237</u>	<u>42X1</u>	<u>Air Resistance - Gurley Method, Linerboard, 42 lb linerboard</u>
<u>240</u>	<u>CM71</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM71</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM71</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM71</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 50 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	36U2	December 2007 - April 2008
36# Linerboard	36U3	May 2008 -
42# Linerboard	42X1	March 2008 -
69# Linerboard	69Y1	July 2008 - March 2009
69# Linerboard	69Y2	May 2009 -
Corrugating Medium	CM71	July 2007 -

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.

continued on next page

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
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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).

INSTRUMENT MANUFACTURER CONTACTS

If your data results have been flagged with an "X" and you believe that the problem may be with your instrument (and not your testing procedures), then CTS urges you to contact the appropriate instrument manufacturer. Where possible, CTS has asked the manufacturer to supply a contact person who is familiar with the Containerboard Collaborative Reference Program, and who can thus work with you on evaluating your results to better determine the cause of the problem. Additional contact names will be added as they become available.

Emerson Apparatus
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59 Sanford St., #12
Gorham Maine, ME 04038
Phone: (207) 856-0055, Ext. 24
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Lorentzen & Wettre USA Inc.
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Phone: (770) 442-8015
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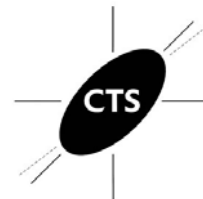
Testing Machines Inc.
2910 Expressway Drive South
Islandia, NY 11722
Phone: (631) 439-5400
FAX #: (631) 439-5420
info@testingmachines.com



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
1FPZNW	1,006.4	1.12	75.9	989.6	1.17	68.0	2	LG
1JY3AW	911.2	-0.38	77.3	941.4	0.26	71.2	4	MC
1Y4BFN	1,024.6	1.41	43.6	968.9	0.78	45.1	3	LH
26YKLT	970.2	0.55	43.8	988.8	1.15	37.8	2	LL
3SGUGZ	920.4	-0.24	69.4	926.6	-0.01	63.6	2	ES
464YH2	873.0	-0.99	28.6	927.9	0.01	47.1	4	TB
595RFB	889.0	-0.73	49.9	891.0	-0.68	45.7	4	LG
5NJLE9	928.7	-0.11	33.2	851.4	-1.42	44.0	4	XX
6U1ZSK	1,026.0	1.43	25.9	994.5	1.26	32.9	4	LM
7G47HT	1,032.6	1.53	71.5	1,001.2	1.38	73.5	4	ER
7MAA83	974.5	0.62	13.3	911.8	-0.29	56.3	4	EX
9NP94Q	915.9	-0.31	72.0	931.6	0.08	64.4	4	LN
CFZVRV	876.8	-0.93	73.4	903.0	-0.45	64.0	4	RP
DV53CV	819.1	-1.84	100.0	855.9	-1.33	60.0	4	LO
E2F87U	995.6	0.95	87.7	941.7	0.27	65.9	3	LL
HTMRUN	1,009.2	1.16	61.0	788.9	-2.59*	43.0	4	TS
HZ8UQX	888.4	-0.74	26.0	963.0	0.67	35.4	4	TC
K194JB	840.0	-1.51	21.2	840.0	-1.63	21.2	1	XX
LLQU98	859.5	-1.20	82.1	930.6	0.06	62.9	2	XX
PM4QXJ	941.7	0.10	72.1	966.0	0.72	76.0	2	LL
QV86YQ	965.8	0.48	94.1	909.2	-0.34	86.0	3	TR
R2SJA	841.0	-1.49	77.1	857.3	-1.31	65.0	4	LH
SQVV5M	890.3	-0.71	50.7	878.7	-0.91	51.5	4	LO
TBN9EZ	992.0	0.89	10.4	979.2	0.97	59.0	4	LG
X64Q9F	876.6	-0.93	30.0	929.2	0.04	56.8	4	TP
Y4TADU	988.1	0.83	78.4	966.6	0.74	71.9	4	ER
YPCU9Q	992.3	0.90	64.7	978.0	0.95	53.2	4	XX
ZC9WLP	944.4	0.14	42.9	950.3	0.43	62.9	2	ER

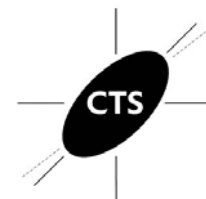
Consensus (All Labs) Results			
Month Mean	935.48	Grand Mean	927.22
Avg SDr	61.63	Avg SDr	58.41
SD btwn Labs	63.37	SD btwn Labs	53.52
Labs Incd	28	Labs Incd	28

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX3
TAPPI Official Test Method T804

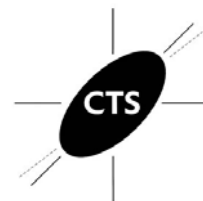


Instrument Code List as Reported by the Labs

- | | |
|--|--|
| (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 | (MC) - MTI Lab Model 10240 |
| (RP) - Regmed P4000M | (TB) - TMI Monitor/Compression Tester, Model 17-70 |
| (TC) - TMI Monitor/Compression Tester, Model 17-37 | (TP) - Tinius Olsen Model 398 |
| (TR) - Toyo Seiki Model RCT-5TU | (TS) - Tinius Olsen Model CTM |
| (XX) - Instrument make/model not specified by lab | |



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
29TNSU	47.6	1.29	3.2	47.6	1.29	3.2	1	LC
2AUX46	73.3	8.18 X	6.7	73.3	8.18 X	6.7	1	TM
2PYECZ	43.2	0.11	1.8	43.2	0.11	1.8	1	LX
3Y54WW	45.1	0.63	4.3	45.1	0.63	4.3	1	TD
46KVA1	43.2	0.11	1.5	43.2	0.11	1.5	1	TC
4LLTDU	48.4	1.50	1.5	48.4	1.50	1.5	1	LC
95SXGA	40.8	-0.52	1.9	40.8	-0.52	1.9	1	LC
9R5XHV	42.0	-0.21	1.3	42.0	-0.21	1.3	1	TC
9Y9HZY	44.8	0.53	2.4	44.8	0.53	2.4	1	TC
ATQ51V	37.3	-1.47	2.1	37.3	-1.47	2.1	1	CT
BMHD8M	43.1	0.10	3.4	43.1	0.10	3.4	1	EM
BZFMFM	49.1	1.69	3.7	49.1	1.69	3.7	1	EM
CRF22H	50.2	1.98	1.8	50.2	1.98	1.8	1	EM
D6MMJL	41.4	-0.36	2.4	41.4	-0.36	2.4	1	EM
E5FJ18	41.1	-0.45	1.4	41.1	-0.45	1.4	1	XX
EEV191	42.0	-0.20	2.6	42.0	-0.20	2.6	1	LC
EUW4ZS	44.2	0.37	1.3	44.2	0.37	1.3	1	LC
F9KESE	40.9	-0.50	3.9	40.9	-0.50	3.9	1	LC
FFHHQE	44.8	0.54	2.4	44.8	0.54	2.4	1	EN
G6LCT2	44.5	0.46	0.6	44.5	0.46	0.6	1	TC
G6VAU4	32.9	-2.64 *	1.8	32.9	-2.64 *	1.8	1	WK
H59SMD	35.7	-1.89	0.6	35.7	-1.89	0.6	1	XX
JV8SCG	42.4	-0.11	1.3	42.4	-0.11	1.3	1	EN
KEQ49A	46.2	0.92	1.4	46.2	0.92	1.4	1	TL
L1PSDB	40.7	-0.55	2.0	40.7	-0.55	2.0	1	EM
LAK441	33.2	-2.57 *	2.7	33.2	-2.57 *	2.7	1	TD
QGTG51	45.0	0.58	2.5	45.0	0.58	2.5	1	TA
QRD7QL	46.9	1.10	1.4	46.9	1.10	1.4	1	TD
R59UKL	41.3	-0.40	1.4	41.3	-0.40	1.4	1	TB
T7HGS9	43.9	0.30	2.3	43.9	0.30	2.3	1	LX
TQ8JQR	41.8	-0.27	1.9	41.8	-0.27	1.9	1	LD
V5B9QF	42.0	-0.22	2.2	42.0	-0.22	2.2	1	EM
VBJR7E	39.5	-0.87	1.2	39.5	-0.87	1.2	1	EM
VN6D79	42.6	-0.05	1.5	42.6	-0.05	1.5	1	LX
VYS2AW	40.9	-0.51	1.5	40.9	-0.51	1.5	1	LC
W71RUM	43.0	0.06	2.6	43.0	0.06	2.6	1	LC



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
X5976U	41.4	-0.37	1.2	41.4	-0.37	1.2	1	EM
XEKWCK	42.8	0.01	1.7	42.8	0.01	1.7	1	LX
XX1A6Z	48.2	1.46	1.4	48.2	1.46	1.4	1	TD
Y3J5YK	44.8	0.54	2.0	44.8	0.54	2.0	1	LC
YCHDKP	42.2	-0.17	1.7	42.2	-0.17	1.7	1	EN

Consensus (All Labs) Results					
Month Mean	42.78		Grand Mean	42.78	
Avg SDr	2.16		Avg SDr	2.16	
SD btwn Labs	3.73		SD btwn Labs	3.73	
Labs Incd	40		Labs Incd	40	

ECT Results by Methodology (as reported by laboratory)

Test Methodology	Sample ECT3		
	Group Mean	Btwn Lab STD	Labs included
TAPPI T811 Wax Edge (1)	41.54	2.11	5
TAPPI T839 Clamp (3)	43.55	3.10	33

ECT Results in pounds force / inch.

Instrument Code List as Reported by the Labs

- | | |
|--|--|
| (CT) - Con-Ten | (EM) - Emerson 1200 Series |
| (EN) - Emerson 2200 | (LC) - L&W Crush Tester 48 |
| (LD) - L&W Crush Tester 248 | (LX) - L&W 506 |
| (TA) - Thwing-Albert (model not specified) | (TB) - TMI Monitor/Compression Tester, Model 17-70 |
| (TC) - TMI Monitor/Compression Tester, Model 17-37 | (TD) - TMI Digital Crush Tester, Model 17-09 |
| (TL) - Tech-Lab Systems Compression | (TM) - TMI/Hinde & Dausch |
| (WK) - Zwick Z005 Crush Tester | (XX) - Instrument make/model not specified by lab |

Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42X1
 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
2WVPPC	101.8	106.6	103.4	109.0	105.2	0.91	10.9	3.2	103.3	0.42	7.9	3.7	15	AH
39GFRS	104.8	104.4	102.1	101.7	103.2	0.39	10.9	1.6	104.3	0.75	10.9	2.1	16	LA
3S3GXM	100.0	99.7	101.0	105.0	101.4	-0.09	10.4	2.5	101.5	-0.14	10.5	3.4	14	LZ
48E69F	102.7	108.8	111.7	No Data	107.8	1.59	13.4	4.6	105.3	1.08	12.0	3.5	15	TB
5CBKN9	96.2	95.5	No Data	No Data	95.9	-1.57	9.9	0.5 L	100.1	-0.60	10.2	2.6	14	LA
5G54KL	90.6*	101.4	95.0	97.4	96.1	-1.52	11.8	4.5	99.0	-0.95	10.7	4.3	16	AH
738GWH	97.7	104.9	103.7	102.1	102.1	0.08	9.0	3.1	103.2	0.40	10.7	4.1	16	XX
76V1XF	106.4	98.9	103.4	100.1	102.2	0.11	11.1	3.4	101.6	-0.09	11.4	3.1	16	LZ
7PYV6K	103.9	103.4	95.4	96.5	99.8	-0.53	11.0	4.5	100.8	-0.35	10.8	3.2	16	AH
85BGRN	91.3*H	103.3	98.8	100.7	98.5	-0.88	12.7	5.1	100.1	-0.60	11.2	4.5	9	TB
8EYKNN	111.4*	107.9	111.1	108.2	109.6	2.09*	8.6	1.8	105.9	1.28	8.9	3.0	16	LZ
9BCL56	92.8	95.8	88.4X	92.7*	92.4	-2.49*	10.1	3.0	93.6	-2.66*	9.8	3.1	16	LA
9G2561	104.6	104.1	101.9L	100.7	102.8	0.27	7.3	1.8	103.9	0.64	8.1	3.3	12	AH
BJ68DG	104.7	105.0	103.1	95.7	102.1	0.09	10.0	4.4	101.6	-0.12	10.0	3.5	6	LC
C6CSS8	107.0	100.9	105.9	107.8	105.4	0.96	10.3	3.1	105.4	1.09	10.0	3.3	14	AA
CBD3LU	108.4	105.6	109.2	103.6	106.7	1.30	11.1	2.6	106.1	1.33	11.1	2.1	14	TB
DC274R	103.4	102.6	96.1	99.9	100.5	-0.34	12.1	3.3	100.1	-0.59	11.4	2.9	16	AH
DFDSHJ	105.2	108.7	106.0	105.1	106.3	1.19	10.3	1.7	106.0	1.28	10.8	2.2	14	TB
DQQG7N	98.8	105.3	101.1	108.9	103.5	0.46	10.8	4.5	100.6	-0.43	9.8	4.4	16	LC
E6KTHZ	90.9*	88.8X	98.5	94.4	93.2	-2.30*	9.0	4.2	97.9	-1.30	9.7	6.0	12	AX
EPA5UC	93.1	98.4	98.9	103.9	98.6	-0.86	12.5	4.4	99.0	-0.93	10.6	3.5	16	LA
FJPCQH	103.3	97.8	105.5	105.4	103.0	0.32	11.6	3.6	104.1	0.70	11.9	4.1	16	LA
HEFYQ4	100.8	102.4	102.9	105.4	102.9	0.28	7.6	1.9	103.4	0.46	8.8	1.3	16	LA
HPM86N	98.9	97.3	93.6	95.1	96.2	-1.48	11.0	2.3	98.2	-1.20	10.2	5.9	16	AH
JBSE8K	97.1	98.1	98.4	100.3	98.5	-0.88	10.7	1.3	99.7	-0.71	10.5	3.1	16	LA
K2SYH7	101.0	101.3	98.3	101.3	100.5	-0.35	9.2	1.4	100.8	-0.37	9.3	3.3	9	TB
KYMDEE	96.5	No Data	No Data	No Data	96.5	-1.41	9.0	0.0 L	94.0	-2.53*	7.8	3.5	4	AH
L6MRZN	103.2	102.6	101.0	102.5	102.3	0.14	9.8	1.0	100.9	-0.33	10.3	3.9	16	TB
LQD1C4	103.6	100.0	104.0	99.3	101.7	-0.02	10.4	2.4	101.5	-0.13	9.8	4.3	14	LZ
M9HXW5	107.7	101.9	106.6	99.4	103.9	0.56	8.4	3.9	104.0	0.64	10.2	2.8	16	AH
MQKFRH	94.9	105.1	101.0	No Data	100.3	-0.39	6.2	5.1	102.5	0.19	7.0	3.8	15	TC
MSZW59	105.4	106.2	105.6	98.6	103.9	0.57	8.7	3.6	104.2	0.73	9.2	3.2	5	TC
NRLFYN	103.1	110.7*	105.3	104.3	105.9	1.08	8.4	3.4	105.6	1.16	8.9	2.5	16	AX
NZ9M1Z	103.8L	107.3L	107.6	105.5	106.1	1.13	5.2	1.8	107.9	1.91	4.9	1.7	15	XX

Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42X1
 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
R9V6QN	97.0	107.4	102.9	99.7	101.7	-0.01	10.7	4.5	99.8	-0.68	10.3	4.1	16	LA
RMYE8C	No Data	No Data	104.9	98.9	101.9	0.03	8.1	4.2	97.7	-1.36	9.0	3.0	14	TB
RU2X4N	103.8	107.5	103.0	101.1 H	103.9	0.55	12.3	2.7	104.7	0.89	10.8	3.7	16	LA
RURZ5Y	101.5	107.3	111.3	100.6	105.2	0.90	9.7	5.0	100.8	-0.36	11.3	4.8	16	AX
SE745M	99.0	95.9	96.1	98.8	97.4	-1.16	9.5	1.7	97.6	-1.37	10.2	2.4	16	LA
T4PE6M	No Data	106.9	106.3	107.6	106.9	1.37	8.5	0.6	107.6	1.81	10.5	4.0	15	TB
T85927	100.9 L	99.7	100.4	101.4	100.6	-0.32	8.9	0.7	102.6	0.22	9.4	2.9	16	LJ
TLQYQB	107.3	94.7	100.0	105.3	101.8	0.01	12.1	5.7	100.2	-0.55	11.4	4.8	16	XX
TT3SP1	105.5	104.4	103.2	104.5	104.4	0.69	11.6	0.9	103.3	0.44	10.7	1.7	8	TX
UFJFBG	96.4	102.1	101.3	104.2	101.0	-0.21	12.7	3.3	102.4	0.14	12.7	3.8	6	AX
UM2B7Y	95.8	96.7	96.1	95.4	96.0	-1.54	7.9	0.5 L	98.3	-1.14	6.9	2.5	16	AH
UN7KGB	102.0	96.0	107.1	95.9	100.3	-0.41	12.7	5.4	103.4	0.48	10.8	17.0 H	15	AH
UVVLB2	103.8	102.3	102.5 H	101.6	102.6	0.20	13.4	0.9	103.7	0.55	10.8	5.6	16	TB
V72TTK	98.4	99.9	97.6	98.3	98.6	-0.86	9.5	1.0	99.0	-0.94	9.7	4.2	12	LA
W6AF3T	102.7	108.5	108.7	102.6	105.6	1.02	11.1	3.4	104.7	0.87	11.7	3.4	16	LA
WQ6DU7	101.6	101.4	102.7 L	102.0	101.9	0.03	5.8	0.6 L	101.8	-0.04	6.4	0.7 L	16	AH
WXXH69	115.5 X	102.3	109.3	110.8 *	109.4	2.04 *	10.4	5.5	106.3	1.39	11.0	3.9	16	AA
Y5GWJC	105.7	101.5	107.1 H	No Data	104.7	0.78	13.1	2.9	104.2	0.71	12.7	5.4	14	LA
YK26PE	101.0	98.3	106.7	No Data	102.0	0.06	13.4	4.3	103.9	0.63	11.3	3.0	13	LC
Z99SSG	107.1	100.8	104.7	98.6	102.8	0.27	9.3	3.8	102.7	0.25	9.7	2.7	11	LB
ZEQM17	101.7	100.2	97.9	99.1	99.7	-0.55	6.0	1.6	101.7	-0.06	8.1	4.2	16	LC
ZSD8FF	98.3	98.1	93.9	97.8	97.0	-1.27	11.5	2.1	95.9	-1.93	10.1	2.7	16	LJ

Consensus (All Labs) Results														
Wk Mean	101.22	102.34	102.63	101.49	Month Mean	101.80			Grand Mean	101.93				
Avg SDr	10.20	10.39	10.40	10.34	Avg SDr	10.33			Avg SDr	10.12				
SD btwn Labs	4.74	4.06	4.55	4.13	SD btwn Labs	3.75			SD btwn Labs	3.14				
Labs Includ	53	53	53	50	SD btwn Wks	3.29			SD btwn Wks	4.23				
Labs Exclud	1	1	1	0	Labs Includ	56			Labs Includ	56				
Labs not rcvd	2	2	2	6										

Containerboard Interlaboratory Testing Program
Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42X1
TAPPI Official Test Method T807



Instrument Code List as Reported by the Labs

(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LB) - L & W Burst-O-Matic	(LC) - L & W Autoline
(LJ) - L & W Bursting Strength Tester J-Type	(LZ) - L & W (model not specified)
(TB) - TMI Monitor/Burst 1000	(TC) - TMI Monitor/Burst (Model 13-71)
(TX) - TMI Monitor/Burst (model not specified)	(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 207

Bursting Strength (Mullen), 36 lb Linerboard - 36U3
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	
14EATV	88.6	87.5	89.3	92.6	89.5	-0.56	8.6	2.2	88.8	-1.16	9.7	2.1	12	LA
26Y2MS	86.4	93.0	89.0	93.1	90.4	-0.27	9.3	3.3	93.2	0.51	10.3	4.1	12	TX
29YAR2	91.5	90.7	85.6	91.5	89.8	-0.45	11.7	2.8	91.5	-0.14	9.9	2.2	12	AH
3EB5TJ	90.8 L	91.4 L	91.8 L	90.7 L	91.2	0.00	3.3	0.5	91.4	-0.19	3.6	1.0	12	XX
3JHY7M	89.9	90.3	86.6	91.2	89.5	-0.56	9.7	2.0	91.4	-0.19	8.6	3.5	12	LA
3UD4UF	90.3	95.7	95.1	93.0	93.5	0.77	9.1	2.5	93.8	0.73	9.9	4.3	12	AX
3Z6UBS	85.7 L	87.7	90.2	92.5	89.0	-0.72	7.0	3.0	89.3	-0.97	8.8	2.7	10	TB
4NN99N	89.0	93.3	90.2	87.4	90.0	-0.40	9.1	2.5	90.2	-0.61	8.5	2.1	7	TB
5C2H9G	93.3	93.9	87.3	86.8	90.3	-0.28	8.9	3.8	90.3	-0.58	8.9	3.8	4	LC
5ETWY7	92.0	89.8	94.7	No Data	92.1	0.32	13.2	2.5	91.9	0.00	11.2	3.6	11	LC
71Q3TH	86.9	87.5	87.7	88.9	87.8	-1.13	9.1	0.8	91.8	-0.05	9.1	3.9	12	LA
778EJ2	93.8	91.0	88.3	91.3	91.1	-0.02	10.4	2.3	91.1	-0.29	10.4	2.3	4	AX
7NDEGR	91.6	94.3	90.2	93.5	92.4	0.40	10.5	1.9	91.5	-0.13	10.2	1.8	12	TB
9BLR3K	88.4	91.6	89.7	90.2	90.0	-0.39	10.1	1.3	89.8	-0.80	8.9	2.0	12	LC
9QQ2S9	95.7	99.8 *	94.3	92.9	95.7	1.49	11.5	3.0	96.4	1.67	10.5	3.2	12	LA
9UU9BZ	94.5	95.5	96.1	93.5	94.9	1.23	9.6	1.1	94.8	1.08	8.6	1.8	12	AX
BJ1G47	90.7	89.3	95.0	96.3	92.8	0.54	9.8	3.4	91.9	0.02	10.8	3.0	12	XX
BTJEAY	95.2	95.0	92.0	No Data	94.0	0.95	10.3	1.8	93.6	0.64	10.5	2.0	9	LA
C5VZDR	97.2	93.1	98.1	92.8	95.3	1.36	10.4	2.7	94.6	1.03	9.9	3.8	9	TB
E1XUCK	91.9	94.8	96.6	91.9	93.8	0.87	9.5	2.3	93.8	0.72	9.5	2.3	4	TC
E32PU2	90.4	92.9	91.1	94.6	92.2	0.35	8.5	1.9	92.4	0.21	9.5	1.5	12	TB
F89ZD1	No Data	No Data	90.3	87.0	88.7	-0.84	7.8	2.3	87.3	-1.72	6.5	4.1	10	TB
F9M41K	92.0	91.4	89.5	90.5	90.9	-0.11	9.1	1.1	91.4	-0.17	9.9	2.1	12	LJ
FY3QXF	96.4	93.8	94.0	93.9	94.5	1.10	8.7	1.3	97.9	2.26 *	8.5	3.0	12	TB
GA44J1	85.6	90.1	90.0	94.0	89.9	-0.41	11.2	3.4	91.4	-0.20	9.7	4.1	9	LB
HAVRV4	95.1	88.9	90.9	92.5	91.9	0.22	10.9	2.6	92.0	0.03	9.8	1.9	12	LZ
J3JC36	86.8	88.0	89.0	88.8	88.2	-1.00	10.9	1.0	91.1	-0.31	9.9	2.6	12	AH
K6M9HT	81.2 *	85.9	85.7	86.8	84.9	-2.08 *	10.5	2.5	87.4	-1.67	9.1	3.6	12	AX
LE6VEU	89.4	92.5	No Data	No Data	90.9	-0.08	10.0	2.2	89.9	-0.72	8.8	3.1	10	LA
NW5XM5	98.4	93.5	92.2	91.0	93.8	0.86	10.2	3.2	92.7	0.29	10.2	3.2	12	AH
PYQUE8	83.6	No Data	No Data	No Data	83.6	-2.51 *	6.2	0.0 L	83.6	-3.10 X	6.2	0.0 L	1	AH
QDVVTQ	86.4	95.7	88.4	87.9	89.6	-0.54	9.8	4.2	91.1	-0.30	10.3	2.9	12	LA
QSQ2AT	94.5 H	98.8 *	94.4	93.4	95.3	1.35	10.6	2.4	95.9	1.51	10.8	1.8	12	AA
R8C5NT	85.1	81.2 X	87.6	84.4	84.6	-2.18 *	8.7	2.6	86.0	-2.19 *	8.9	2.4	12	LA

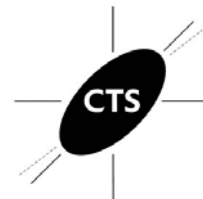
Containerboard Interlaboratory Testing Program
Analysis 207

Bursting Strength (Mullen), 36 lb Linerboard - 36U3
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	
RBNZMS	87.8	94.5	95.7	No Data	92.7	0.49	10.2	4.2	96.8	1.83	9.8	5.9 H	11	TB
RC1M7R	87.5	85.5*	85.6	87.3	86.5	-1.55	11.1	1.1	86.3	-2.10*	10.3	1.5	12	LA
RJVPZC	91.0	94.5	93.6	91.3	92.6	0.48	10.6	1.7	93.1	0.45	9.5	2.4	12	LZ
RL2PWB	88.3	92.0	95.5	97.7	93.4	0.72	12.3	4.1	95.2	1.25	11.1	3.7	12	LA
S8PXJ2	94.6	92.3	93.2	91.5	92.9	0.57	9.9	1.3	95.3	1.28	10.2	2.7	12	AH
SEUZVA	91.7	92.0	89.1	92.9	91.4	0.08	9.4	1.6	93.0	0.42	10.3	2.8	12	LZ
SZYCD2	93.4	94.8	94.6	95.4	94.6	1.11	9.9	0.8	93.7	0.67	9.9	1.8	12	LZ
TFJ1LD	89.5	88.2	94.0	90.6	90.6	-0.20	6.3	2.5	91.2	-0.25	7.6	3.5	12	LC
UIHTN9	93.0	92.5	92.0 L	90.7 L	92.1	0.29	4.9	1.0	91.5	-0.16	6.0	2.1	12	AH
UD16S9	85.6	88.4	86.3	82.2*	85.6	-1.84	7.4	2.6	90.2	-0.64	9.5	4.3	12	AH
UWQ76D	91.6	93.1	95.5	91.0	92.8	0.54	5.7	2.0	94.1	0.82	6.4	2.4	12	AH
V1U78P	93.6	93.1	93.2	91.4	92.8	0.54	8.7	1.0	92.7	0.30	9.0	0.9	12	LA
VCYDYP	88.7	88.4	83.2*	84.0*	86.1	-1.69	9.4	2.9	85.1	-2.55*	9.2	2.8	12	LJ
WG73TH	No Data	93.3	96.6	92.9	94.3	1.02	11.1	2.1	95.8	1.47	10.0	2.5	10	TB
WQDEZ7	97.3	96.3	94.3	93.8	95.4	1.39	10.9	1.7	94.4	0.93	10.0	1.8	12	AA
WV7ZVG	91.1	89.9	84.5	89.0	88.6	-0.84	9.4	2.9	89.3	-0.96	8.5	2.3	8	LA
XMUTUR	95.5	91.0	91.2	89.6	91.8	0.21	11.4	2.6	91.9	0.02	10.6	2.6	12	LA
XP9FY5	90.9	94.6 L	91.1	No Data	92.2	0.33	5.0	2.1	90.2	-0.65	6.3	3.0	11	TC
Y674HF	95.4	98.4	97.8	98.6*	97.6	2.11*	8.9	1.5	92.0	0.05	7.0	5.0 H	11	AH
YQZVYE	92.1	93.3	91.1	95.7	93.0	0.61	9.4	2.0	93.0	0.43	9.4	2.0	4	LC
YRPJHU	89.3	86.0	90.7	85.3	87.8	-1.11	9.6	2.6	90.0	-0.69	8.3	3.4	12	AH
YW6JH8	84.9	90.0	91.1	92.0	89.5	-0.55	9.7	3.2	91.3	-0.21	7.7	4.0	12	LC

Consensus (All Labs) Results												
Wk Mean	90.76	92.05	91.30	91.15	Month Mean	91.18		Grand Mean	91.88			
Avg SDr	9.22	10.08	9.27	9.81	Avg SDr	9.56		Avg SDr	9.31			
SD btwn Labs	3.82	3.24	3.57	3.39	SD btwn Labs	3.03		SD btwn Labs	2.67			
Labs Includ	54	53	54	50	SD btwn Wks	2.41		SD btwn Wks	2.99			
Labs Exclud	0	1	0	0	Labs Includ	56		Labs Includ	55			
Labs not rcvd	2	2	2	6								



Instrument Code List as Reported by the Labs

(AA) - Perkins Model A

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

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

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

(TB) - TMI Monitor/Burst 1000

(TX) - TMI Monitor/Burst (model not specified)

(AH) - Perkins Model AH

(LA) - L & W Bursting Strength Tester

(LC) - L & W Autoline

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

(TC) - TMI Monitor/Burst (Model 13-71)

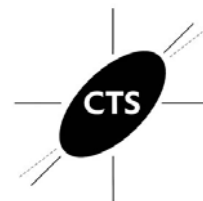
(XX) - Instrument make/model not specified by lab



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
1A8H4X	94.4	89.0	93.1	96.5	93.3	0.30	4.2	3.2	92.0	0.09	4.2	2.9	16	TD
1MMN7D	86.3	89.2	87.9	86.2	87.4	-0.93	3.6	1.5	86.8	-1.08	3.0	1.1	8	XX
1PNKMM	95.8	100.3	94.0	91.4	95.4	0.75	4.5	3.7	96.5	1.08	4.3	2.8	16	XX
384DXQ	98.8	105.5*H	100.0	102.1	101.6	2.05*	5.2	2.9	101.0	2.11*	5.2	2.6	12	LZ
3AKN7X	91.0H	83.3	86.4	85.6	86.6	-1.10	5.9	3.3	88.5	-0.70	5.8	3.3	14	LC
3LLAXQ	96.2	96.0	93.7	97.1	95.8	0.83	5.4	1.4	95.8	0.94	4.8	2.1	16	LC
4AS5K9	92.1	93.1	No Data	No Data	92.6	0.17	3.9	0.7	95.7	0.91	3.7	1.9	14	LD
4GBC56	89.2	91.2	89.9	92.0	90.6	-0.26	3.2	1.3	86.6	-1.13	5.4	4.3	8	XX
4PE5YG	93.6	No Data	No Data	No Data	93.6	0.36	3.0	0.0L	87.6	-0.92	5.9	9.8H	4	MB
55DSEF	98.5	97.4	99.4H	97.6	98.2	1.35	4.8	0.9	98.0	1.43	4.6	1.2	11	LC
55YV33	89.6	92.6	90.7	94.4	91.8	0.00	4.1	2.1	90.4	-0.27	3.8	1.8	16	LD
5WV8G3	No Data	90.4	88.6	89.3	89.4	-0.51	3.5	0.9	88.3	-0.75	3.4	1.4	15	TC
64HRTP	92.8	97.0	94.0	93.7	94.4	0.54	4.2	1.8	93.7	0.46	4.0	2.1	16	LC
64Z82J	93.3	93.3	97.1	95.3	94.7	0.61	4.1	1.8	94.3	0.61	3.9	1.4	16	LC
7J7PNB	85.8	86.4	86.0	86.8	86.3	-1.17	4.8	0.4	87.1	-1.02	4.6	2.1	16	LZ
7X2N3M	89.4	90.9	90.7	93.1	91.0	-0.17	3.4	1.5	89.7	-0.45	4.3	7.8H	12	MZ
7XFRE6	91.9	96.9	84.3	88.8	90.5	-0.28	5.3	5.3H	91.8	0.03	5.9	4.8	12	LC
87HZPJ	88.5	86.9	86.4	88.7	87.6	-0.88	3.6	1.2	88.1	-0.79	3.9	1.4	16	EM
8DEDV5	95.1	96.5	No Data	No Data	95.8	0.84	4.1	1.0	97.3	1.28	4.7	2.4	14	LC
8WLVLQ	97.9	102.7*	106.8X	103.7*	102.8	2.30*	4.2	3.7	103.1	2.58*	4.4	3.0	11	LC
A414LH	92.7	89.6	95.0	95.9	93.3	0.31	3.6	2.8	87.0	-1.04	4.0	5.5	16	EN
ACFQUL	93.6	96.1	94.0	94.6	94.6	0.58	3.4	1.1	94.7	0.70	3.7	1.8	16	LC
BDT49F	84.9	85.0	83.7	81.3*	83.7	-1.70	4.7	1.7	84.9	-1.52	4.5	3.1	5	TB
BLVR62	94.2	96.3	92.5	94.6	94.4	0.55	4.0	1.6	95.1	0.79	4.0	1.5	16	EM
BR1EQV	89.7	92.4	88.7	92.5	90.8	-0.21	3.6	1.9	92.5	0.19	3.9	3.0	6	EX
BV514L	90.8	90.7	90.6	91.8L	91.0	-0.18	4.0	0.6	90.1	-0.35	4.4	0.9	16	LC
BYKHXX	90.8	88.4	91.3	90.9	90.4	-0.30	4.1	1.3	90.6	-0.22	3.5	1.7	12	LC
CHEJST	92.6L	94.0	97.4	92.2	94.0	0.47	3.9	2.3	93.4	0.40	4.2	2.0	16	LC
CX862S	95.9	92.8	90.9	96.0	93.9	0.43	5.1	2.5	93.3	0.37	4.9	2.7	14	LC
EA91JH	89.3	92.5	90.4	98.5	92.7	0.18	3.8	4.1	91.9	0.06	3.7	2.6	15	MB
EBSCJC	92.1	94.9	90.6	92.4	92.5	0.15	4.0	1.8	91.2	-0.10	3.8	2.0	16	EN
ENT2Y7	91.5	94.5	82.7	88.6	89.3	-0.52	4.1	5.0H	91.3	-0.09	5.9	5.0	12	LC
EXU8C1	102.1*	98.2	100.0	105.8*	101.5	2.04*	4.7	3.3	101.6	2.25*	4.7	6.9H	12	LZ
FHFML1	88.9	91.2	90.8	93.0	91.0	-0.17	4.0	1.6	90.1	-0.34	4.5	2.2	16	LX



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	
GDD41D	92.2	94.4	90.9	87.2	91.2	-0.14	3.8	3.0	91.7	0.01	3.7	2.2	8	LD
HBK7WZ	95.8	96.0	95.6	96.4	96.0	0.87	5.2	0.3 L	94.4	0.63	5.1	4.0	12	LC
HWSCMU	95.6	95.1	94.3	97.3	95.6	0.79	4.1	1.3	94.7	0.70	4.0	1.7	16	TD
J1A362	89.4	94.7	93.2	92.6	92.5	0.13	4.4	2.2	92.6	0.21	4.0	1.1	16	LC
J1LD1Y	97.3	92.6	98.5	96.3	96.2	0.91	3.8	2.5	95.8	0.94	5.0	2.6	16	LC
JPGRS4	102.0*	95.4	99.3	98.1	98.7	1.45	4.4	2.8	98.2	1.47	4.0	6.0 H	15	LC
K497CJ	91.5	89.2	91.1	86.1	89.5	-0.49	4.5	2.5	91.0	-0.14	4.2	1.8	15	TD
KG7YEX	No Data	No Data	93.6	91.5	92.6	0.15	3.9	1.5	89.8	-0.40	5.5	10.7 H	14	LZ
KQVV17	85.3	No Data	No Data	No Data	85.3	-1.37	3.5	0.0 L	86.0	-1.28	3.2	1.3	4	EM
LN3ULQ	101.4*	101.4	100.9	No Data	101.2	1.98	4.1	0.3 L	96.5	1.09	4.3	3.4	15	LC
LRFQWT	96.3	99.8	96.3	95.5	97.0	1.08	3.9	1.9	96.9	1.19	4.1	2.9	16	LC
NT92JX	93.0	96.8	94.3	96.7	95.2	0.71	3.5	1.9	96.1	1.01	4.0	3.2	16	MB
P3GN8H	85.7	88.7	88.7	83.4 L	86.6	-1.09	2.7	2.6	85.6	-1.36	2.9	2.1	8	XX
Q3DM4Z	88.9	87.0	90.9	87.5 H	88.6	-0.68	4.9	1.8	89.8	-0.42	4.3	2.3	16	EM
QSUCEB	92.4	98.3	93.4	93.7 H	94.4	0.55	5.0	2.6	95.6	0.88	4.3	2.5	16	LD
QW6E3T	85.5 H	82.8	71.7 XH	60.9 XH	75.2	-3.48 X	8.1	11.3 H	85.4	-1.40	13.1	10.1 H	16	IM
REP3FZ	87.0	88.2	85.6	86.2	86.8	-1.06	4.9	1.1	86.5	-1.17	5.1	1.5	16	LD
RV694R	99.0	92.4	100.3	99.0	97.7	1.23	3.8	3.6	97.4	1.29	4.3	2.2	16	LC
T8XPZV	94.9	97.0	97.3	93.0	95.6	0.78	4.3	2.0	95.3	0.81	4.6	1.4	16	LD
TQY57Q	84.5 L	83.5	82.5	83.9	83.6	-1.72	2.2	0.8	84.6	-1.59	2.9	2.0	16	TQ
TRDJGK	95.4	93.3	95.5	94.7	94.7	0.61	4.3	1.0	92.9	0.29	4.2	1.7	15	LC
U2TD6P	92.1	92.5	93.2	90.0	92.0	0.03	4.8	1.4	92.7	0.24	4.2	3.2	16	LC
UDYKZC	82.8 L	83.3	80.3* L	84.1	82.6	-1.93	2.7	1.6	84.5	-1.62	3.4	3.0	16	LD
UWZ7NY	91.8	88.5 H	89.7	86.6	89.2	-0.56	5.5	2.2	86.5	-1.16	5.2	3.9	12	EM
V9C89L	89.5	85.3	85.9	88.9	87.4	-0.93	4.3	2.1	86.4	-1.19	4.9	2.9	16	TX
VUGRH2	89.1	86.9	88.0	88.3	88.0	-0.79	4.2	0.9	88.7	-0.66	4.0	2.9	15	LC
WFSPJM	76.4 X	82.0	76.0 X	86.2 H	80.2	-2.45*	6.1	4.9 H	87.7	-0.90	5.6	6.3 H	16	LZ
WRBLHK	90.3	90.5	89.0	No Data	89.9	-0.40	3.7	0.8	90.5	-0.27	4.2	2.5	13	LC
X3MDM5	88.4	89.3	91.0	89.4	89.5	-0.49	4.0	1.1	92.4	0.16	4.2	3.1	16	LC
X3TEXH	87.5	86.8	89.2	85.8	87.3	-0.95	3.0	1.4	88.7	-0.66	4.0	2.1	8	EX
XTV25Z	80.8*	86.8	81.4*	83.7	83.1	-1.82	3.6	2.7	83.6	-1.82	3.5	2.7	16	TM
Y6ZE5X	93.1	91.4	90.1	93.6	92.0	0.04	4.4	1.6	92.1	0.09	4.4	1.4	16	LC
ZF4X8C	86.7 L	87.9	88.2	88.3	87.8	-0.85	2.8	0.7	89.5	-0.49	3.2	1.5	16	LZ



Consensus (All Labs) Results

Wk Mean	91.79	92.08	91.47	91.90	Month Mean	91.82	Grand Mean	91.64
Avg SDr	4.37	4.37	4.06	4.25	Avg SDr	4.19	Avg SDr	4.61
SD btwn Labs	4.59	5.11	4.94	5.22	SD btwn Labs	4.77	SD btwn Labs	4.44
Labs Includ	64	64	60	60	SD btwn Wks	2.28	SD btwn Wks	3.69
Labs Exclud	1	0	3	1	Labs Includ	66	Labs Includ	67
Labs not rcvd	2	3	4	6				

Instrument Code List as Reported by the Labs

- | | |
|--|---|
| (EM) - Emerson 1200 | (EN) - Emerson 2200 |
| (EX) - Emerson (model not specified) | (IM) - Instron 4486 |
| (LC) - L & W Crush Tester 48 | (LD) - L&W Crush Tester 248 |
| (LX) - L & W 506 | (LZ) - L & W Crush Tester (model not specified) |
| (MB) - Messmer Buchel K440 | (MZ) - Messmer Buchel (model not specified) |
| (TB) - TMI Monitor/Compression Tester, Model 17-70 | (TC) - TMI Monitor/Compression Tester, Model 17-37 |
| (TD) - TMI Digital Crush Tester, Model 17-09 | (TM) - TMI/Hinde & Dauch |
| (TQ) - Thwing-Albert QC-II Series | (TX) - TMI Digital Crush Tester (model not specified) |
| (XX) - Instrument make/model not specified by lab | |

Containerboard Interlaboratory Testing Program
Analysis 217

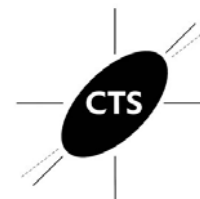
Ring Crush, 36 lb Linerboard - 36U3
TAPPI Official Test Method T822



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
13MT1F	83.3	82.6	82.4	83.4	82.9	1.22	4.7	0.5	82.4	1.17	5.3	1.7	12	LZ
1LGXL1	75.9	82.2	78.9	81.0	79.5	0.27	4.4	2.7	80.8	0.71	4.8	3.1	11	MB
1ST84X	75.2	74.1	76.0	75.0	75.1	-0.96	3.7	0.8	75.5	-0.74	3.9	3.0	11	LC
2ERZ7R	81.9 H	77.7	78.0	82.5	80.0	0.41	5.6	2.5	73.0	-1.45	4.8	5.5	12	EN
2GGJGK	87.8 *	81.6	80.7	82.5	83.2	1.29	4.3	3.2	73.2	-1.40	3.1	8.1 H	11	LC
2SA52V	82.1	80.8	80.1	82.8	81.5	0.81	4.8	1.2	82.0	1.06	4.8	2.0	12	LC
2ZXB25	77.4	78.6	77.4	78.2	77.9	-0.18	4.8	0.6	77.4	-0.22	4.9	1.4	8	TD
33MWY4	No Data	74.0	74.7	75.4	74.7	-1.06	2.9	0.7	74.7	-0.97	3.2	1.2	10	TC
3TGJTG	74.0	73.5	77.0	76.0	75.1	-0.95	3.0	1.7	74.0	-1.17	4.0	1.8	12	TX
4FNGUL	73.0	72.1	76.3	73.6	73.8	-1.33	3.2	1.8	73.8	-1.24	3.2	1.8	4	TB
4SQXE3	80.7	81.5	82.8	82.9	82.0	0.96	3.1	1.1	79.8	0.44	3.8	2.2	12	LC
4UWUX9	73.6	74.0	72.8	75.3	73.9	-1.28	4.5	1.0	73.9	-1.20	4.5	1.0	4	EX
5W1VCU	78.0	77.8	78.8	81.2	79.0	0.12	3.7	1.6	78.1	-0.02	4.3	2.0	12	LC
5Y3V6P	77.4	77.1	77.3	77.2	77.3	-0.36	4.0	0.1 L	77.2	-0.29	4.2	1.3	12	LC
6QZDPP	77.3	78.4	76.5 L	77.6 L	77.5	-0.30	4.1	0.8	77.5	-0.20	4.8	1.7	12	LC
6RKAPA	No Data	No Data	89.2 *	82.8	86.0	2.08 *	4.6	4.5 H	84.8	1.83	4.3	3.6	10	LZ
6VNGPL	73.9	No Data	No Data	No Data	73.9	-1.28	2.7	0.0 L	73.9	-1.19	2.7	0.0 L	1	EM
7ALEHG	81.5	83.5	77.8	78.8	80.4	0.52	3.9	2.6	80.8	0.72	4.4	3.6	10	MB
7EGNRA	68.4 *	74.7 H	67.2 *	74.8	71.3	-2.02 *	5.4	4.1	72.8	-1.51	5.1	4.8	12	LZ
7XBQGF	77.1	78.4	77.1	78.1	77.7	-0.24	3.4	0.7	77.9	-0.10	3.6	1.2	12	LC
8U8CBS	70.9	75.6	71.3	71.1 *	72.2	-1.77	3.7	2.2	72.7	-1.54	3.8	3.3	12	TM
9NPH1F	73.2	72.4	75.8	77.5	74.7	-1.07	3.7	2.4	73.7	-1.26	2.9	1.7	12	LD
AGHLY8	84.0	No Data	No Data	No Data	84.0	1.51	2.8	0.0 L	75.7	-0.70	3.6	11.7 H	2	MB
AZMHTG	80.0	77.4	78.4	77.8	78.4	-0.04	4.2	1.1	76.7	-0.41	4.7	2.9	12	EM
BUPUGR	73.9	77.4	74.4	75.3	75.3	-0.91	2.8	1.5	75.2	-0.84	3.2	1.5	12	LC
C8ZW9Y	83.3	85.3	82.5	81.8	83.2	1.30	4.2	1.5	82.4	1.18	4.1	1.3	12	EM
CJ95N5	85.5	73.8	71.7	74.9	76.5	-0.57	3.9	6.2 H	75.2	-0.83	4.2	3.8	12	LZ
CL4SCF	81.7	79.1	75.6	80.6	79.2	0.19	3.7	2.7	78.2	0.00	3.4	2.1	12	EN
CSTQ39	78.7	76.8	72.1	75.5	75.8	-0.77	4.2	2.8	80.4	0.60	5.1	6.0	8	LC
DA8UF8	74.5	73.0	74.6	73.5	73.9	-1.29	3.5	0.8	72.9	-1.49	4.0	1.6	12	EM
DMGBQ3	78.9	77.3	79.3	81.0	79.1	0.17	3.6	1.5	78.6	0.11	3.7	1.3	12	LX
DSGYHX	86.7	87.8 *	85.6	No Data	86.7	2.27 *	4.0	1.1	82.6	1.22	4.1	4.0	11	LC
EJD1MT	75.8	76.2	76.1	No Data	76.0	-0.70	4.0	0.2 L	76.7	-0.43	3.2	2.6	11	LC
ERF3Z8	72.1	69.6 *H	55.8 XH	49.2 XH	61.7	-4.69 X	7.0	11.0 H	75.6	-0.72	10.4	14.3 H	12	IM



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
F4BEQ5	77.5	78.9	73.4	75.7	76.4	-0.60	4.9	2.4	80.9	0.75	5.9	5.4	8	LC
FBV7WG	81.8	81.0	81.8	81.6	81.5	0.84	3.9	0.3 L	77.2	-0.29	4.9	4.9	8	MZ
G6AQRS	80.8	82.2	75.3	82.1	80.1	0.43	4.1	3.3	79.1	0.26	4.0	3.3	9	LC
GRDHTQ	80.1	80.6	80.3	76.4	79.4	0.23	3.7	2.0	79.8	0.44	3.7	3.8	12	LC
HKBQA8	81.9	81.7	78.2	83.6	81.4	0.78	5.1	2.3	80.6	0.66	4.4	3.1	12	XX
HRR1X1	82.5	85.4	83.2	83.5	83.7	1.43	4.7	1.3	83.7	1.53	4.4	1.7	9	LC
JFA3YV	81.5	81.4	81.1	82.3	81.6	0.84	3.6	0.5	80.0	0.51	3.3	1.3	12	TD
JPHJQB	74.1	75.7	76.4	77.6	76.0	-0.72	4.4	1.5	77.1	-0.30	3.8	2.5	12	LD
K9F24N	77.4	81.8	No Data	No Data	79.6	0.31	4.3	3.1	81.8	0.99	4.0	1.7	10	LD
KLEQ4X	79.5	79.9	81.2	78.8	79.9	0.37	5.0	1.0	78.7	0.14	4.3	2.1	12	LC
LH24NP	68.8*	70.2*	74.0	70.1*	70.8	-2.16*	3.6	2.2	70.8	-2.07*	3.6	2.2	4	XX
LK43LA	83.8	82.8	81.5	82.5	82.7	1.14	4.6	0.9	81.9	1.02	4.6	1.4	12	LC
LXK77K	80.3	81.8	No Data	No Data	81.1	0.70	4.1	1.1	81.4	0.87	4.2	1.6	10	LC
MDLWZQ	83.0	78.1	83.1	80.5	81.2	0.73	4.3	2.4	83.4	1.43	4.7	2.7	12	LC
N1HABB	76.4	79.2	79.0	78.6	78.3	-0.07	3.8	1.3	79.0	0.22	3.8	1.2	12	LC
N5JWF8	86.6	89.7*	95.8X	88.2*	90.1	3.21X	4.1	4.0	87.5	2.57*	4.5	4.9	10	LC
P4J39N	79.7	84.9	79.6	85.2	82.4	1.06	3.3	3.1	80.2	0.54	3.6	2.6	12	TD
P7EB82	79.2	74.1	73.5	75.8	75.6	-0.80	4.7	2.5	75.1	-0.87	4.6	3.0	12	EM
PMACUB	75.0	80.3	79.5	82.0	79.2	0.19	4.3	3.0	77.1	-0.30	4.1	3.1	12	LD
QFC9VB	72.5	75.7	77.1	75.7	75.2	-0.91	3.8	2.0	75.3	-0.80	4.1	2.2	12	LC
QM25W3	82.4	85.8	82.6	82.6	83.4	1.34	4.1	1.6	81.7	0.97	4.6	2.5	12	LC
QM4YTK	76.0	75.8L	78.5	77.2	76.9	-0.46	2.3	1.2	76.9	-0.37	2.3	1.2	4	XX
QRNCR3	80.0L	81.6	83.2	79.1	80.9	0.67	2.9	1.8	80.7	0.68	3.6	2.1	12	LC
RPFVVR	76.5	76.1	81.2H	76.0	77.5	-0.30	5.1	2.5	81.3	0.87	4.8	6.9H	8	LC
T1ELTS	75.0H	78.0	78.7	81.3	78.3	-0.08	6.5	2.6	81.0	0.77	5.4	2.8	12	LD
TADUY1	77.9	76.0	72.9	75.7	75.6	-0.81	3.6	2.1	75.3	-0.80	3.7	1.7	6	LD
TNKZRD	81.2	81.1	82.9	80.8H	81.5	0.83	4.4	1.0	81.5	0.92	4.4	1.0	4	EX
UAVLPJ	75.7	77.6	72.3	73.5	74.8	-1.05	2.8	2.3	77.1	-0.31	3.0	2.3	12	LZ
V7M2R7	79.4	76.5	76.6	77.4	77.5	-0.29	3.4	1.4	78.5	0.07	3.9	2.5	12	LC
VDJJUY	83.8	84.0	86.3*	85.1	84.8	1.74	3.8	1.1	86.8	2.38*	4.8	3.3	12	LZ
XMG1FK	72.7	76.7	72.9	71.4	73.5	-1.41	4.3	2.3	73.2	-1.40	3.9	4.6	11	LC
XTLCHL	79.9	76.3L	76.6	77.3	77.5	-0.28	2.8	1.6	77.1	-0.30	3.8	4.0	12	TQ
YYRWYK	77.4	77.5	77.6	77.0	77.4	-0.32	2.6	0.3 L	77.4	-0.23	2.6	0.3 L	4	XX



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	
ZZDVN3	79.8	81.5	81.9	79.5	80.7	0.60	4.0	1.2	79.4	0.33	4.1	3.0	12	LD

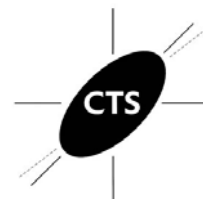
Consensus (All Labs) Results														
Wk Mean	78.45	78.68	78.08	78.72	Month Mean	78.53			Grand Mean	78.21				
Avg SDr	4.27	4.06	3.97	4.02	Avg SDr	4.04			Avg SDr	4.29				
SD btwn Labs	4.27	4.13	4.09	3.80	SD btwn Labs	3.59			SD btwn Labs	3.59				
Labs Includ	66	65	62	61	SD btwn Wks	2.10			SD btwn Wks	3.80				
Labs Exclud	0	0	2	1	Labs Includ	66			Labs Includ	68				
Labs not rcvd	2	3	4	6										

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
- (TB) - TMI Monitor Compression Tester, Model 17-70
- (TD) - TMI Digital Crush Tester, Model 17-09
- (TQ) - Thwing-Albert QC-II Series
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (IM) - Instron 4486
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (MZ) - Messmer Buchel (model not specified)
- (TC) - TMI Monitor/Compression Tester, Model 17-37
- (TM) - TMI/Hinde & Dauch
- (TX) - TMI Digital Crush Tester (model not specified)



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	
1JVBQL	26.6	24.0	24.1	24.8	24.9	0.01	1.9	1.2	24.4	-0.65	1.9	0.9	14	LW
2A41EJ	24.6 L	24.2 L	21.3 XL	22.9* L	23.2	-1.91	0.4	1.5	24.3	-0.76	0.4	1.7	12	XX
2CF3HQ	25.7	26.5	25.7	25.6	25.9	1.20	2.0	0.4	26.1	1.24	1.6	0.7	16	LU
2HKJWX	26.0	25.6	23.9	25.2	25.1	0.35	2.1	0.9	24.7	-0.39	2.2	1.2	16	XX
2PQQJA	24.9	24.2	24.2	23.8	24.3	-0.68	2.2	0.4	24.3	-0.84	2.2	0.5	14	LW
31QT43	24.8	26.1	26.7	25.1	25.7	0.93	2.3	0.9	25.1	0.06	2.4	1.1	16	LW
35U2MQ	26.0 L	27.1* L	25.2 L	25.6 L	26.0	1.30	0.0	0.8	25.6	0.64	0.0	1.0	8	LZ
3RZK8D	26.6	26.0	25.0	25.3	25.7	1.01	2.3	0.7	26.1	1.21	2.3	0.6	16	LW
42F57L	24.2	No Data	No Data	No Data	24.2	-0.74	1.5	0.0 L	23.2	-2.06*	2.4	0.8	4	LZ
4GL15F	25.5	No Data	No Data	No Data	25.5	0.70	2.3	0.0 L	26.4	1.63	2.4	1.2	5	BK
4SFD16	No Data	24.7	25.9	24.4	25.0	0.20	2.0	0.8	25.1	0.07	1.8	0.6	14	BK
4U4UAD	24.8	26.2	23.1	26.3	25.1	0.26	2.3	1.5	24.7	-0.32	2.4	1.0	16	LZ
6F44SU	24.0	24.5	23.5	23.8	24.0	-1.05	1.6	0.4	25.0	0.05	1.6	1.1	16	XX
7SCL2P	26.3	26.7	26.3	26.0	26.3	1.71	2.3	0.3	26.3	1.55	2.5	0.7	16	XX
89LPPU	18.9 X	24.0	23.9	24.2	22.7	-2.47*	1.6	2.6 H	24.2	-0.93	2.0	1.6	16	LU
9HEQYA	26.9	28.4 X	24.3	26.6	26.5	1.97	2.3	1.7	26.6	1.82	2.3	1.4	6	LA
9XHVP2	24.3 L	26.5	25.7	26.1	25.6	0.91	2.2	1.0	24.7	-0.30	1.9	1.4	15	LA
A1KJ2U	24.4 L	24.7 L	27.5* L	25.6 L	25.6	0.83	0.6	1.4	25.2	0.22	0.5	0.9	12	LA
AXJ3E1	24.0	24.8	25.1	No Data	24.6	-0.28	1.6	0.5	24.6	-0.50	1.9	0.6	14	LW
CCVJ7T	24.1	25.0	24.4	24.9	24.6	-0.29	2.6	0.4	25.1	0.13	2.5	0.9	6	XX
E6E7G4	25.9	27.0*	26.1	25.4	26.1	1.45	2.0	0.7	26.6	1.78	2.1	0.7	11	XX
FXB2SM	23.0	24.7 L	25.1 L	24.3	24.3	-0.68	1.9	0.9	24.7	-0.40	1.8	0.7	12	LW
JSDJGS	23.6	23.9	23.4	23.5	23.6	-1.45	2.3	0.2	23.7	-1.54	2.1	0.4	8	XX
K1YQBW	26.0	24.5	26.1	25.8	25.6	0.85	1.9	0.8	25.0	-0.03	1.9	0.7	16	LU
KK4NHY	24.5	25.4	23.9	23.8	24.4	-0.55	2.2	0.7	24.1	-1.00	2.1	0.8	16	LW
LBPWGL	24.1	25.1	22.5*	27.3* H	24.7	-0.13	4.0	2.0 H	26.8	2.01*	5.8	4.0 H	14	LW
MRUQE8	23.2	24.0	25.0 L	24.5 L	24.2	-0.80	1.1	0.8	24.2	-0.89	1.3	0.9	16	LZ
PMBES9	24.4	24.2	23.9	24.3	24.2	-0.74	1.8	0.2	24.4	-0.64	2.0	0.5	16	XX
PVALK3	24.7	24.4	24.5	24.9	24.6	-0.27	2.3	0.2	24.8	-0.26	2.2	0.4	5	LU
QFPNRU	25.4	25.3	24.9	No Data	25.2	0.41	1.9	0.2	24.8	-0.27	2.1	0.8	15	LW
R97AZZ	24.5	24.6	25.7	24.6	24.9	0.00	1.6	0.6	25.3	0.36	1.6	0.7	16	LU
SXH6TU	26.3	24.3	24.6	23.1	24.6	-0.32	2.1	1.3	25.6	0.74	2.4	1.4	15	LW
T3VP2T	24.3	25.5	25.1	25.5	25.1	0.28	2.1	0.6	24.8	-0.25	2.0	0.6	8	LW
TB9ZA7	25.5	24.7	25.4	24.9	25.1	0.32	2.2	0.4	25.7	0.83	2.2	0.7	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
V3FU1B	23.9	24.8	24.4	24.7	24.4	-0.47	2.0	0.4	24.7	-0.32	2.0	0.6	16	LW
VRSHXE	30.8 X	30.1 X	30.3 X	No Data	30.4	6.49 X	2.1	0.4	30.6	6.42 X	2.0	1.2	15	LZ
W7FKE9	24.6	23.8	22.7	25.9	24.2	-0.71	2.1	1.3	23.4	-1.83	2.3	1.4	14	LW
X9LZE7	24.8	25.5	24.4	24.5	24.8	-0.09	2.3	0.5	25.0	0.01	2.1	0.7	16	LU
XY6ABV	25.0	24.8	24.7	25.3	25.0	0.12	2.2	0.3	25.0	-0.02	2.4	0.4	16	LU
YJ5RD3	25.1	24.4	24.8	24.0	24.6	-0.30	2.1	0.5	25.0	-0.04	2.2	0.6	16	LW
YURVL2	26.0	24.6	25.6	25.1	25.3	0.55	2.2	0.6	25.8	0.92	2.4	0.8	14	LW
Z8NA5A	23.2 L	21.7 XL	23.0 L	23.4 L	22.8	-2.35 *	0.5	0.8	23.4	-1.82	0.4	1.0	16	XX
ZMXUCZ	25.9 L	26.5 L	26.0 L	24.2 L	25.6	0.92	0.1	1.0	25.7	0.80	0.1	1.2	15	TS

Consensus (All Labs) Results

Wk Mean	24.93	25.06	24.78	24.86	Month Mean	24.85	Grand Mean	25.00
Avg SDr	1.91	1.96	1.93	2.28	Avg SDr	2.01	Avg SDr	2.16
SD btwn Labs	1.00	0.94	1.12	0.97	SD btwn Labs	0.86	SD btwn Labs	0.87
Labs Incd	40	38	39	38	SD btwn Wks	0.96	SD btwn Wks	1.11
Labs Exclcd	2	3	2	0	Labs Incd	42	Labs Incd	42
Labs not rcvd	1	2	2	5				

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)

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

(TS) - TMI Monitor/STFI Compression Tester, 17-33

(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	
1AF28Z	21.2 L	20.6	21.0	21.9	21.2	-0.04	1.3	0.5	20.7	-0.52	1.4	0.7	12	LU
1HP8CA	21.4	21.8	19.7	20.3	20.8	-0.59	1.6	1.0	20.8	-0.37	1.6	0.5	12	LU
2F8J7B	31.4 X	31.0 X	31.4 X	No Data	31.3	14.94 X	1.5	0.3	30.7	11.69 X	1.7	0.6	10	LZ
322SYB	21.1	20.6	21.3	No Data	21.0	-0.32	1.9	0.4	20.7	-0.56	1.7	0.4	9	LW
46DYDH	No Data	22.8	19.9	23.5*H	22.1	1.30	3.5	1.9 H	21.3	0.21	2.6	1.4 H	8	LW
85TEZE	20.6	21.5	21.4	21.0	21.1	-0.09	1.8	0.4	20.9	-0.34	1.8	0.5	12	BK
9F8TD2	20.0 L	18.4 XL	19.9 L	21.0 L	19.8	-2.05*	0.3	1.1	19.9	-1.49	0.3	1.0	12	XX
9UUPMR	20.6	20.6	21.4	21.1	20.9	-0.47	1.1	0.4	20.7	-0.51	1.2	0.6	12	LW
A5QZTC	21.1	21.1	22.0	20.8	21.2	0.05	1.7	0.5	20.9	-0.29	1.7	0.5	7	LW
A7TKBR	22.6	21.4	21.6	21.0	21.7	0.69	1.7	0.7	20.7	-0.48	1.8	1.0	12	LZ
AM9BGK	20.3	20.2	20.8	20.9	20.5	-1.00	1.4	0.4	21.2	0.03	1.5	0.5	12	LU
AP6LWQ	19.5 L	20.7 L	20.6 L	20.5 L	20.3	-1.28	0.1	0.6	21.4	0.29	0.1	1.1	11	TS
D2VT3K	20.9	21.1	22.6	21.6	21.6	0.52	1.6	0.8	22.1	1.14	1.4	0.9	12	LU
DHCJKJ	20.4	20.7	21.2	20.5	20.7	-0.70	1.7	0.4	20.3	-1.03	1.7	0.6	12	LW
DP86TZ	21.8	No Data	No Data	No Data	21.8	0.94	1.3	0.0 L	22.4	1.58	1.5	0.9	2	BK
DTRCFR	21.1	21.6	21.2	22.0	21.5	0.45	1.7	0.4	21.5	0.39	1.8	0.5	12	LW
E3MRSJ	22.3	20.5	20.8	20.5	21.0	-0.28	2.0	0.8	21.1	-0.01	2.0	0.9	12	XX
EJAFYS	21.1	20.7	21.5	21.8	21.3	0.13	1.9	0.5	21.3	0.18	1.9	0.5	4	LU
EXR4VP	20.4	19.8	19.5	21.3	20.3	-1.41	2.0	0.8	19.4	-2.17*	2.0	0.8	12	LW
EYWUH5	20.6	20.5	21.5	20.5	20.8	-0.62	1.9	0.5	20.5	-0.82	1.8	0.7	10	LW
FLTMHS	No Data	21.6	21.2	20.9	21.3	0.10	1.8	0.4	20.8	-0.42	1.6	0.8	10	BK
GBTS4G	21.5	23.3*	22.0	21.4	22.1	1.26	1.4	0.9	22.6	1.82	1.2	0.9	12	LU
GMRNBH	22.2	22.4	21.9	22.2	22.2	1.43	1.7	0.2	22.0	1.03	1.8	0.5	12	LW
HEF3Z7	21.9	21.7	20.8	21.5	21.5	0.41	1.8	0.5	22.5	1.64	2.0	0.9	11	LW
HJ7AHE	22.7	20.8	20.8	No Data	21.4	0.34	2.0	1.1	20.9	-0.27	1.9	1.1	11	LW
K34VT4	20.9 L	22.4 L	18.1 XL	19.9 L	20.3	-1.32	0.4	1.8 H	20.9	-0.30	0.3	1.5 H	8	XX
KSYEM1	22.3	21.5	20.7	21.7	21.6	0.55	1.9	0.7	21.7	0.69	1.9	0.5	12	LW
KZAPWE	21.4 L	19.9	20.9 L	21.9	21.0	-0.27	0.8	0.8	20.9	-0.28	0.9	0.8	12	LZ
LA7YUN	19.8	19.5	20.4	19.2*	19.7	-2.21*	1.7	0.5	19.7	-1.74	1.7	0.5	4	XX
LDULG9	20.6	20.5	19.9	20.8	20.4	-1.12	1.5	0.4	20.8	-0.38	1.6	0.4	12	XX
LEK939	17.5 X	20.3	18.6*	18.8*	18.8	-3.57 X	1.8	1.2	19.4	-2.08*	1.6	1.0	11	LU
LKP21G	20.9 L	21.6	21.3	23.0	21.7	0.74	1.4	0.9	22.1	1.15	1.4	0.8	12	XX
LQXC3G	20.9	20.9	21.4	21.3	21.1	-0.09	1.6	0.2	21.2	0.05	1.5	0.4	12	LW
MUYSJF	19.1*L	20.6 L	21.0 L	20.8 L	20.4	-1.22	0.3	0.9	20.1	-1.26	0.4	1.1	12	LA



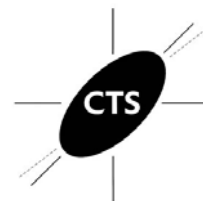
WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
NHSYZX	21.4	21.2	19.9	21.6	21.0	-0.29	2.0	0.8	21.1	-0.04	1.8	0.8	12	LZ
NPC5KB	23.2*	22.4	21.2	22.0	22.2	1.48	1.9	0.8	22.2	1.32	1.9	0.8	12	XX
SQDBDE	22.2	21.1	22.2	23.1	22.2	1.41	1.4	0.8	22.2	1.23	1.4	0.8	4	XX
U1S3YU	21.9	26.6X	23.7*	22.7	23.7	3.75X	1.9	2.1 H	23.7	3.15X	1.9	2.1 H	4	LA
UBFPQB	20.4	21.4	22.3	21.3	21.3	0.21	2.0	0.8	21.3	0.14	1.9	0.7	12	LW
UFKX8Z	22.5 L	22.4 L	22.2 L	20.3 L	21.8	0.95	0.0	1.1	21.8	0.85	0.0	1.1	4	LZ
UT5UEH	20.6	20.3	20.9	21.9	20.9	-0.43	2.0	0.7	20.7	-0.56	2.0	0.5	12	LW
VC3BPX	21.3	No Data	No Data	No Data	21.3	0.19	1.6	0.0 L	21.3	0.23	1.6	0.0 L	1	XX
XQ47LB	20.7 L	22.4	21.4	20.6	21.3	0.08	1.6	0.8	21.0	-0.12	1.6	1.3	11	LA
YUZKFT	23.0	22.5	22.6	23.5*	22.9	2.52*	1.7	0.4	22.8	2.03*	1.7	0.6	9	XX

Consensus (All Labs) Results														
Wk Mean	21.21	21.20	21.13	21.30	Month Mean	21.20			Grand Mean	21.14				
Avg SDr	1.58	1.65	1.69	1.73	Avg SDr	1.66			Avg SDr	1.62				
SD btwn Labs	0.95	0.89	0.97	1.03	SD btwn Labs	0.67			SD btwn Labs	0.82				
Labs Includ	40	39	40	39	SD btwn Wks	0.79			SD btwn Wks	0.83				
Labs Exclud	2	3	2	0	Labs Includ	41			Labs Includ	42				
Labs not rcvd	2	2	2	5										

Instrument Code List as Reported by the Labs

- (BK) - Buchel Strip Compression Tester BK-155
- (LU) - L & W 52 without moisture correction (was 53)
- (LZ) - L & W (model not specified)
- (XX) - Instrument make/model not specified by lab

- (LA) - L & W Autoline
- (LW) - L & W 53 with moisture correction (was 53M)
- (TS) - TMI Monitor/STFI Compression Tester, 17-33



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3N5F3E	124.0	-0.34	6.9	135.6	0.42	21.6	4	EV
48UHR7	154.2	1.23	11.8	160.2	1.80	11.5	3	EV
8MMKK1	143.5	0.68	9.1	137.4	0.52	14.1	4	XX
92KEQL	104.7	-1.34	7.3	111.4	-0.93	6.0	4	XX
A63MCC	117.8	-0.66	23.5	114.7	-0.74	16.0	4	LA
BL2N3L	129.0	-0.08	16.5	142.2	0.79	15.9	4	XX
CVEXMQ	109.4	-1.10	7.6	107.9	-1.13	11.5	4	EV
EHD8BG	149.2	0.97	18.1	143.3	0.85	14.5	2	XX
HCR8C2	128.9	-0.08	5.6	99.3	-1.60	4.4	4	EV
KW3LGJ	131.1	0.03	9.8	133.8	0.32	10.6	3	XX
LRRT76	122.5	-0.42	12.1	115.5	-0.70	12.1	4	EV
LWG3H4	158.1	1.44	20.7	126.9	-0.06	12.8	3	XX
PA7929	124.3	-0.32	18.3	115.2	-0.72	12.6	3	EV
S1B9YT	140.9	0.54	6.7	140.3	0.69	9.4	3	EV
SBEVG8	173.2	2.22 *	8.6	195.9	3.79 X	20.9	4	EV
TWS95D	134.2	0.19	10.3	138.3	0.57	8.5	2	EV
UD537U	92.3	-1.99	4.1	109.5	-1.04	9.4	4	EV
VLQG25	107.0	-1.22	3.7	101.5	-1.49	10.7	4	EV
VU776Q	0.3	-6.78 X	0.0	0.3	-7.14 X	0.0	3	EV
W32MS2	157.0	1.38	8.9	151.5	1.31	11.6	4	EV
WEZ9BJ	131.1	0.03	6.5	160.5	1.81	6.6	4	EV
XAFNRB	120.3	-0.53	11.5	117.0	-0.62	9.4	4	EV
XPESXN	121.5	-0.47	5.5	123.3	-0.26	5.1	4	EV
YLNXEZ	127.3	-0.17	3.2	131.7	0.20	6.9	4	EV

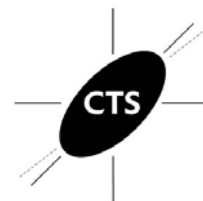
Consensus (All Labs) Results			
Month Mean	130.50	Grand Mean	128.04
Avg SDr	11.65	Avg SDr	11.66
SD btwn Labs	19.20	SD btwn Labs	17.89
Labs Incd	23	Labs Incd	22

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgag 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
1GHBES	316.4	20.77 X	42.9	206.7	11.38 X	27.7	4	SC
1KDF1D	102.6	-0.39	6.1	103.8	-0.29	5.1	4	HY
4D891Y	87.0	-1.94	4.1	96.4	-1.13	12.6	4	TM
6S7PKT	115.0	0.83	6.4	116.0	1.10	6.0	2	XX
6WY1D4	128.0	2.12 *	16.2	112.0	0.64	10.9	4	HY
751NKG	113.0	0.64	9.5	118.4	1.37	11.0	3	SC
9CN9KB	100.5	-0.60	5.0	100.5	-0.65	4.8	4	SC
9NM3UN	101.0	-0.55	8.8	95.0	-1.28	8.0	3	TM
DD4N5W	113.4	0.68	8.7	115.3	1.01	7.0	4	TM
HQBLRX	95.4	-1.11	8.9	91.8	-1.65	8.8	4	TM
LM5TDC	118.8	1.21	1.8	119.6	1.50	8.5	4	HY
MJPFU3	107.4	0.08	7.9	108.4	0.23	6.1	4	HY
NPW7R7	105.4	-0.12	5.3	108.7	0.26	6.2	4	TM
Q7MBZK	105.4	-0.12	6.2	108.3	0.22	8.0	4	HZ
QEKSX4	98.4	-0.81	8.5	100.2	-0.69	6.9	4	TM
TEKXGG	107.4	0.08	8.0	100.7	-0.64	6.3	4	SC

Consensus (All Labs) Results			
Month Mean	106.58	Grand Mean	106.32
Avg SDr	8.05	Avg SDr	8.05
SD btwn Labs	10.10	SD btwn Labs	8.82
Labs Incd	15	Labs Incd	15

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

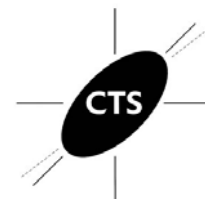
(HZ) - Huygen Internal Bond Tester with AccuPress

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

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

Containerboard Interlaboratory Testing Program
 Analysis 234
COF Inclined Plane (Slide Angle), 42 lb Linerboard - 42X1
 TAPPI Official Test Method T815



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3NQG1V	21.0	-1.83	2.2	20.8	-3.82X	2.4	3	ZZ
59TUA7	27.3	0.07	2.1	27.4	-0.20	1.8	4	ZZ
63SFE3	26.8	-0.07	6.6	28.1	0.16	4.9	2	ZZ
6C6HFG	28.3	0.39	2.3	29.0	0.67	1.9	2	ZZ
6S46F3	37.8	3.26X	1.9	35.1	3.96X	3.8	4	ZZ
7LRDEX	29.4	0.72	1.5	29.8	1.09	1.1	3	ZZ
7VMF91	28.2	0.35	2.2	29.9	1.13	2.5	4	ZZ
A5AQ2Q	27.4	0.11	3.8	26.2	-0.87	5.1	4	ZZ
AHUYHH	23.6	-1.04	3.0	26.4	-0.79	2.2	4	ZZ
FU66TY	27.7	0.19	3.5	27.3	-0.25	3.7	4	ZZ
GUFF4H	28.8	0.53	1.3	28.9	0.57	1.3	4	ZZ
HWE1J2	29.0	0.59	5.0	28.1	0.18	5.8	3	ZZ
J13819	27.0	-0.01	2.9	27.6	-0.11	3.2	4	ZZ
J2Y92D	21.6	-1.65	3.8	24.6	-1.75	2.9	4	ZZ
LJWND5	24.4	-0.80	2.8	26.3	-0.85	3.6	4	ZZ
PL2ZDV	20.2	-2.07*	1.9	24.6	-1.78	3.7	4	ZZ
PRZBVE	34.2	2.17*	1.5	29.7	1.04	1.9	4	ZZ
Q7RM43	26.0	-0.32	2.4	27.1	-0.38	3.1	4	ZZ
R6VQL6	29.2	0.66	5.0	32.2	2.40*	4.4	4	ZZ
R9PDLE	26.7	-0.10	3.3	28.1	0.16	3.9	2	ZZ
RMBN5Y	27.2	0.05	0.3	27.2	-0.35	0.7	4	ZZ
T855R5	30.2	0.96	2.9	29.1	0.69	4.2	3	ZZ
VWL5YL	30.7	1.11	2.1	26.4	-0.78	3.7	3	ZZ

Consensus (All Labs) Results

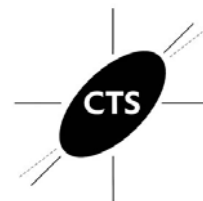
Month Mean	27.04	Grand Mean	27.80
Avg SDr	3.16	Avg SDr	3.40
SD btwn Labs	3.30	SD btwn Labs	1.83
Labs Incd	22	Labs Incd	21

Instrument Code List as Reported by the Labs

(ZZ) - Instruments No Longer Tracked

Containerboard Interlaboratory Testing Program
Analysis 237

Air Resistance, 42 lb linerboard - 42X1
TAPPI Official Test Method T460



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
4XNC8K	19.6	0.71	6.3	18.1	0.40	4.6	4	LW
9KVL4G	15.8	-0.61	1.7	15.7	-0.63	3.6	4	XX
CD63WB	20.0	0.86	4.7	19.0	0.83	4.4	4	GG
DV7AHG	17.3	-0.10	1.0	16.2	-0.43	1.7	3	TN
H1N7FE	14.4	-1.11	1.6	14.8	-1.06	1.9	4	LA
HJHUUR	15.5	-0.70	1.6	16.0	-0.51	2.6	2	XX
HMDRXY	20.5	1.03	0.2	18.6	0.66	3.4	3	XX
M74DQP	24.7	2.48 *	1.8	22.5	2.36*	1.4	4	LW
NFXV4Q	17.3	-0.08	3.1	17.8	0.30	3.7	4	HG
PWPJ5T	17.1	-0.17	1.8	25.5	3.67X	4.5	3	LW
PYE8KM	17.8	0.07	3.8	17.4	0.10	3.9	2	XX
RAP9AC	20.6	1.06	1.7	20.2	1.32	1.6	4	XX
T1YVQB	13.9	-1.27	2.2	16.1	-0.45	2.8	4	GA
T2NMH3	15.4	-0.74	2.1	14.3	-1.25	2.2	4	XX
UX1ILLU	15.0	-0.90	2.3	16.0	-0.51	3.0	4	HG
WM1FYZ	16.0	-0.54	2.8	14.6	-1.15	2.6	4	XX

Consensus (All Labs) Results			
Month Mean	17.56	Grand Mean	17.16
Avg SDr	2.81	Avg SDr	3.06
SD btwn Labs	2.87	SD btwn Labs	2.26
Labs Incd	16	Labs Incd	15

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer
 (HG) - Technidyne - Hagerty Model #1
 (LW) - L & W Gurley Densometer, Oil Flotation
 (XX) - Instrument make/model not specified by lab

(GG) - Gurley Precision #4320 Densometer
 (LA) - L & W Autoline
 (TN) - Teledyne Gurley S-P-S Tester #4190



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
1BHMK7	62.8	60.3	59.3	60.6	60.7	-1.22	2.3	1.5	60.9	-1.11	2.3	1.3	5	LZ
1W8Y65	62.4	63.0	60.4	61.3 L	61.8	-0.79	1.9	1.2	61.7	-0.75	2.5	0.9	16	LC
2R6TMW	63.7	65.4	62.9 L	62.3	63.6	-0.01	3.0	1.3	64.2	0.27	3.1	1.6	16	XX
37JF58	58.8	No Data	No Data	No Data	58.8	-2.06*	2.7	0.0 L	61.0	-1.04	2.7	1.6	5	MB
5R3MM3	61.5	60.9 H	60.6	60.7 H	60.9	-1.14	4.1	0.4	59.8	-1.56	3.6	0.9	16	TB
6JATL9	61.5	61.7	60.5	61.9	61.4	-0.94	2.7	0.6	61.5	-0.85	2.8	1.2	16	LC
7JNS75	60.2	63.0	61.7	62.0	61.7	-0.80	2.5	1.2	62.0	-0.64	2.5	1.0	16	TA
7KVP4P	58.1	59.3	63.7	61.5	60.6	-1.26	3.3	2.5	61.0	-1.06	3.9	2.8	15	LC
7PT6H2	64.2	63.2	61.9	No Data	63.1	-0.21	2.5	1.2	63.3	-0.08	2.5	1.8	13	TM
7THS5W	61.0	64.4 H	67.4	68.2 L	65.3	0.71	3.5	3.3	66.3	1.16	3.5	2.4	14	LZ
88Q2BQ	63.3	62.0	62.6	61.1	62.3	-0.58	3.2	0.9	64.6	0.45	3.1	2.1	16	LC
8GWJSF	63.6	64.2	62.6	63.1	63.4	-0.10	3.0	0.7	63.7	0.09	2.5	0.6	16	LC
91LPRC	65.4	65.9	64.3	64.7	65.1	0.63	3.8	0.7	66.9	1.39	3.8	1.9	16	LD
95C5S5	64.1	63.6	64.1	64.4	64.1	0.19	2.8	0.3	60.3	-1.35	2.9	2.8	16	LC
97XZ9D	64.8	63.2	65.1	64.4	64.4	0.32	3.5	0.8	65.1	0.67	3.7	1.3	16	LZ
9MDFEH	65.2	66.3	66.3	68.6	66.6	1.28	2.6	1.4	65.8	0.96	2.7	1.5	16	LD
9PBGZZ	62.1	64.0	62.4	64.3	63.2	-0.16	2.6	1.1	62.5	-0.43	2.8	1.5	16	LC
9SE3HC	66.7	69.5*	68.3	67.8	68.1	1.92	3.4	1.1	67.8	1.78	3.1	1.9	13	LC
CPCPFX	63.1	63.7	63.4	63.8	63.5	-0.04	2.7	0.3	62.8	-0.30	2.6	1.9	16	LC
D77RL1	63.3	62.4	62.2	64.7	63.2	-0.19	3.0	1.1	63.6	0.02	3.3	1.3	16	LC
DJTBGU	64.0	63.5	62.0	63.6	63.3	-0.14	3.5	0.9	63.8	0.12	3.8	1.8	16	LC
GEX4LL	64.1	63.1	71.1*	67.9	66.5	1.26	3.3	3.6 H	69.2	2.38*	4.6	5.1 H	16	LX
HZKG16	61.6	62.9	61.5	61.4	61.8	-0.76	2.7	0.7	62.6	-0.39	2.6	1.2	16	LC
LHfy4K	67.7	64.3	65.6	63.2	65.2	0.68	2.4	2.0	63.1	-0.19	4.1	2.4	16	LC
MGEEPW	63.4	61.8	61.1	No Data	62.1	-0.64	3.6	1.2	60.8	-1.13	3.5	1.7	14	LC
MX86LH	70.1*	68.9*	68.7	68.4	69.0	2.33*	3.4	0.8	64.6	0.46	4.1	3.4	12	LC
NA9PSP	65.7	63.6	67.2	67.1	65.9	1.00	3.4	1.7	66.0	1.04	3.3	1.2	16	EM
NB7GJP	60.9	62.5	69.1	64.3	64.2	0.26	2.8	3.6 H	63.0	-0.21	3.0	3.0	12	TD
NCTPCV	62.0	60.8	60.2	62.2	61.3	-0.99	2.6	0.9	61.3	-0.92	2.7	1.7	15	MB
P76MAL	69.1*	66.8	63.1	65.9	66.2	1.12	3.1	2.5	66.7	1.34	2.9	2.6	16	LC
P88QJ9	61.0	66.7	63.8	No Data	63.8	0.10	2.7	2.9	63.5	0.00	3.1	3.3	15	LC
QJEq68	66.0	66.5	67.2	64.9	66.1	1.09	3.2	1.0	68.4	2.04*	3.7	2.1	12	LZ
R3MDAC	61.3	61.7	65.1	62.7	62.7	-0.39	2.4	1.7	61.5	-0.85	2.8	3.5	12	TB
TGHTBB	62.9	61.4	62.3	62.5	62.3	-0.56	2.6	0.6	62.6	-0.37	2.9	1.0	12	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
UFAT8H	59.2	63.6	61.7	62.5	61.8	-0.79	2.6	1.9	62.3	-0.51	3.9	2.6	16	LC
VJFV8Q	58.8	57.6*	59.9	62.0	59.6	-1.72	2.5	1.9	59.4	-1.72	2.7	1.4	16	LX
W4YHAP	63.7	65.9	62.5	65.0	64.3	0.30	3.1	1.5	65.0	0.60	3.0	1.2	8	LD
WD88AW	69.1*	69.7*	64.9	66.7	67.6	1.71	2.9	2.2	68.5	2.06*	2.9	2.7	11	LC
WTSPM8	63.0	64.2	60.0	61.4	62.1	-0.63	2.7	1.8	61.8	-0.70	3.1	1.5	16	TD
X2A6AJ	No Data	No Data	64.2	66.0	65.1	0.65	3.2	1.3	62.9	-0.26	3.8	1.6	14	LD
XF2QCU	65.0	63.8	64.2	63.6	64.1	0.23	2.0	0.6	63.5	0.00	2.6	1.3	16	LC
XVASV2	62.0	61.9	61.6	62.5	62.0	-0.68	2.7	0.4	61.8	-0.73	2.5	1.2	16	TM
YK1RJN	69.1*	65.5	70.7*	67.7	68.3	1.99	2.7	2.2	65.9	1.00	2.8	3.8 H	16	LZ
YQLETE	63.5	65.0	62.6	No Data	63.7	0.05	1.9	1.2	62.9	-0.24	2.0	1.5	14	LC
ZHRJTN	62.9	62.8	61.8	57.3*H	61.2	-1.03	4.0	2.6	62.6	-0.37	3.7	3.5 H	16	MB

Consensus (All Labs) Results									
Wk Mean	63.45	63.73	63.67	63.86	Month Mean	63.60	Grand Mean	63.52	
Avg SDr	2.99	3.02	2.91	2.92	Avg SDr	2.96	Avg SDr	3.16	
SD btwn Labs	2.80	2.50	2.93	2.58	SD btwn Labs	2.33	SD btwn Labs	2.40	
Labs Includ	44	43	44	40	SD btwn Wks	1.67	SD btwn Wks	2.18	
Labs Exclud	0	0	0	0	Labs Includ	45	Labs Includ	45	
Labs not rcvd	1	2	1	5					

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)
- (TA) - Thwing-Albert Model QC II-XDS
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TB) - TMI Monitor/Compression Tester, 17-70
- (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	
1FT6EM	78.6	75.6	75.9	75.8	76.5	0.46	2.7	1.4	75.7	0.32	2.9	2.1	16	LZ
2QVS1X	80.7	79.6	78.7	77.5	79.1	1.04	2.5	1.3	79.1	1.08	2.6	1.2	16	XX
364Y4N	72.5	72.6 L	68.6	71.8	71.4	-0.67	2.8	1.9	73.2	-0.25	3.7	3.0 H	16	LZ
3RL44C	73.5	71.9	73.8	69.6	72.2	-0.49	1.9	1.9	72.0	-0.52	2.5	1.7	13	XX
4JRLV1	72.1	71.8	72.0	70.6	71.6	-0.62	1.9	0.7	71.5	-0.64	1.7	0.8	12	LC
7Z4KGW	80.2	79.1	77.8	81.6	79.7	1.17	2.8	1.6	78.7	1.00	3.5	1.4	16	LC
AMPC2D	73.7	74.5	74.8	76.9	75.0	0.12	3.1	1.3	74.2	-0.02	3.0	1.6	8	LD
C89NN3	72.7	79.0	78.1	76.4	76.5	0.47	2.0	2.8	76.5	0.51	2.4	2.3	16	LD
CX9F1W	77.0	79.8	77.9	78.4	78.3	0.85	2.4	1.2	77.6	0.76	2.7	2.3	16	LZ
F9446V	68.9	68.7	67.3	67.5	68.1	-1.40	1.9	0.8	67.6	-1.53	2.0	1.1	16	XX
GKMUJ7	73.2	84.7	80.5	80.5	79.7	1.18	3.7	4.8 H	81.1	1.54	3.1	2.9 H	16	MB
HZU8BM	81.4	78.6	78.2	78.9	79.3	1.07	2.3	1.5	77.9	0.81	2.6	1.8	16	LC
KL3FM5	69.5	70.4	68.1 L	68.1	69.0	-1.19	1.9	1.2	68.9	-1.22	2.1	1.3	16	LD
PTWLBK	74.9	76.4	76.7 L	76.2	76.1	0.37	2.4	0.8	76.1	0.40	2.3	0.6	8	XX
SUBFZE	64.8 *H	65.2 H	67.1 H	63.7 *H	65.2	-2.04 *	6.8	1.4	65.4	-2.02 *	6.6	1.3	16	TB
T86BLK	71.9	72.6	73.3	73.9	72.9	-0.33	3.0	0.9	73.3	-0.22	2.7	0.9	16	TD

Consensus (All Labs) Results

Wk Mean	74.09	75.04	74.29	74.20	Month Mean	74.41	Grand Mean	74.29
Avg SDr	3.20	2.88	2.94	2.98	Avg SDr	3.00	Avg SDr	3.10
SD btwn Labs	4.57	4.99	4.48	5.13	SD btwn Labs	4.52	SD btwn Labs	4.39
Labs Includ	16	16	16	16	SD btwn Wks	1.86	SD btwn Wks	1.77
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

(LC) - L & W Crush Tester 48

(LD) - L&W Crush Tester 248

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

(MB) - Messmer Buchel K440

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

(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 - CM71
TAPPI Official Test Method T822



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	
4CV78W	42.8	35.8	42.1 L	41.2	40.5	-0.37	2.5	3.2	38.9	-1.89	3.2	3.0 H	16	LX
4KTTB6	39.1	No Data	No Data	No Data	39.1	-0.88	2.4	0.0 L	41.0	-0.48	2.9	1.3	4	EM
5EVL7C	42.5	45.3	44.2	43.0	43.8	0.87	2.4	1.3	44.0	1.55	2.4	1.7	16	MB
5HZSYA	42.2	41.0	42.6	41.3	41.8	0.12	1.6	0.8	40.9	-0.58	1.9	0.9	16	LC
6JHXB7	44.2	43.7 L	42.8	43.5	43.5	0.79	1.8	0.6	42.8	0.75	1.8	1.3	16	TD
BXEC2D	41.3	42.7	40.2	41.7	41.5	0.00	2.2	1.0	40.4	-0.91	1.9	0.9	16	EN
C76P3N	38.5	35.8 H	34.6 XH	35.4 XH	36.1	-2.05*	4.6	1.7	33.4	-5.64 X	4.4	2.4	16	TB
DDNKJH	40.8	43.3	42.9	46.3	43.3	0.71	3.0	2.2	41.6	-0.12	2.7	2.7	12	MZ
F7B7M3	39.9	39.8	37.6*	39.5	39.2	-0.86	1.7	1.1	39.5	-1.52	1.6	0.9	14	WK
HDCYAR	42.6	41.4	42.0	42.9	42.2	0.29	2.4	0.7	42.4	0.45	2.6	0.7	5	TB
L13AB4	41.7	42.3	41.6	41.8	41.9	0.15	2.2	0.3 L	41.0	-0.53	2.3	0.8	16	LC
M89F6M	42.6	43.1	41.6	42.2	42.4	0.34	1.8	0.6	42.3	0.41	2.0	0.9	16	LC
PL24ZJ	42.4	44.9	43.9	44.9	44.0	0.97	2.6	1.2	43.4	1.15	2.7	1.4	16	LC
PN54GH	41.7	43.1	44.4	43.4	43.1	0.63	1.9	1.1	42.9	0.78	2.1	0.9	16	LC
QR2Y2R	39.8	44.7	40.1	46.0 H	42.6	0.45	3.3	3.2	43.4	1.15	2.8	2.8	14	LC
RBKEX3	41.6	40.4	42.0	40.9	41.2	-0.08	2.7	0.7	40.6	-0.74	3.2	1.1	16	LC
YR4NCL	No Data	No Data	46.9*	42.9	44.9	1.31	2.4	2.8	42.5	0.52	3.1	4.2 H	14	LZ
ZZ59GL	33.2 X	32.8*	39.4 H	No Data	35.1	-2.40*	4.0	3.7 H	35.2	-4.43 X	3.5	2.6	14	LC

Consensus (All Labs) Results

Wk Mean	41.48	41.24	42.15	42.75	Month Mean	41.45	Grand Mean	41.72
Avg SDr	2.22	2.41	2.72	2.55	Avg SDr	2.64	Avg SDr	2.52
SD btwn Labs	1.52	3.61	2.21	1.89	SD btwn Labs	2.64	SD btwn Labs	1.47
Labs Includ	16	16	16	15	SD btwn Wks	1.86	SD btwn Wks	1.89
Labs Exclud	1	0	1	1	Labs Includ	18	Labs Includ	16
Labs not rcvd	1	2	1	2				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(EN) - Emerson 2200 Series

(LC) - L & W Crush Tester 48

(LX) - L & W 506

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

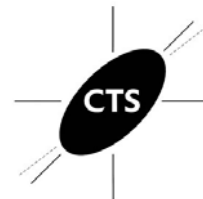
(MB) - Messmer Buchel K440

(MZ) - Messmer Buchel (model not specified)

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

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

(WK) - Zwick Z005 Crush Tester



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	
2DFENB	15.4	15.9	15.1	15.2	15.4	1.04	1.3	0.4	15.5	1.14	1.3	0.3	16	LW
DBY6NT	15.0	15.2	14.8	15.0	15.0	-0.31	1.1	0.2	14.6	-0.68	1.1	0.4	16	LU
EVWY6C	14.3	15.0	14.9	No Data	14.7	-1.09	0.9	0.4	14.9	-0.10	1.0	0.4	14	LW
H9F9UK	15.6	16.2	15.0	15.0	15.4	1.11	2.3	0.6	15.2	0.67	2.1	0.7	5	LU
J6KV86	14.7	14.7	15.3	14.4	14.8	-0.91	1.2	0.4	14.6	-0.54	1.2	0.7	8	XX
JAEQ57	14.9	14.8	15.1	14.9	14.9	-0.52	1.1	0.1	14.7	-0.35	1.2	0.8	8	XX
LQNSR7	14.3	15.5	14.7	No Data	14.9	-0.69	1.4	0.6	14.6	-0.62	1.1	0.6	15	LW
T22C79	14.8	15.8	14.5	14.9	15.0	-0.29	1.1	0.5	14.3	-1.32	1.0	1.1 H	14	LW
YSEN9F	15.6	No Data	No Data	No Data	15.6	1.66	1.1	0.0 L	15.8	1.80	1.3	0.3	5	BK

Consensus (All Labs) Results									
Wk Mean	14.94	15.38	14.92	14.90	Month Mean	15.07		Grand Mean	14.91
Avg SDr	1.10	1.86	1.20	1.09	Avg SDr	1.33		Avg SDr	1.29
SD btwn Labs	0.50	0.55	0.26	0.28	SD btwn Labs	0.32		SD btwn Labs	0.50
Labs Includ	9	8	8	6	SD btwn Wks	0.44		SD btwn Wks	0.63
Labs Exclud	0	0	0	0	Labs Includ	9		Labs Includ	9
Labs not rcvd	0	1	1	3					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

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

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

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