



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #477 (F)- June 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, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT3</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42X2</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>42X2</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>42X2</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>42X2</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	36U3	May 2008 -
42# Linerboard	42X1 42X2	March 2008 - May 2009 June 2009 -
69# Linerboard 69# Linerboard	69Y1 69Y2	July 2008 - March 2009 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:

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

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

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

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

Flags assigned to Weekly Means:

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

Flags assigned to Monthly SD Wks and Cumulative SD Wks:

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

INSTRUMENT MANUFACTURER CONTACTS

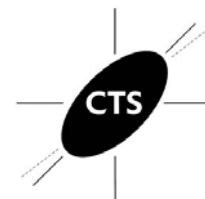
If your data results have been flagged with an "X" and you believe that the problem may be with your instrument (and not your testing procedures), then CTS urges you to contact the appropriate instrument manufacturer. Where possible, CTS has asked the manufacturer to supply a contact person who is familiar 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.

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

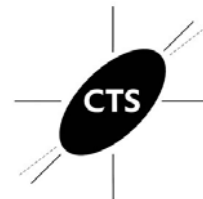


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
IJG9B7	791.6	-1.86	32.2	833.8	-1.84	39.8	4	XX
4NNSBB	925.9	-0.07	46.6	898.2	-0.63	51.1	4	XX
68CGH9	930.1	-0.01	62.0	906.9	-0.47	69.9	3	XX
6EFHM9	889.0	-0.56	86.3	894.9	-0.69	61.2	4	LO
797JM4	950.8	0.27	57.3	969.3	0.70	55.8	4	LM
7DST8V	924.4	-0.09	38.6	968.1	0.68	71.5	4	LG
7T6YG9	935.2	0.06	63.4	947.4	0.29	62.1	4	LH
9F1WJ4	906.6	-0.33	43.0	866.8	-1.22	52.9	4	EX
E1PNGV	972.8	0.56	41.8	998.5	1.25	54.2	3	LL
EH75AA	917.8	-0.18	26.1	904.9	-0.51	43.9	4	TB
FQBCXH	930.0	-0.01	23.7	905.2	-0.50	28.3	4	XX
GQ8VNR	1,115.7	2.47 *	84.8	1,061.7	2.43 *	94.2	4	TR
GXGRTR	981.2	0.67	54.4	1,010.3	1.47	83.6	4	XX
J4Y2EB	969.2	0.51	34.9	975.1	0.81	38.2	4	ER
JKCSR5	876.2	-0.73	29.2	901.2	-0.58	69.8	4	LN
NXUAYW	961.3	0.41	102.0	977.1	0.85	71.9	4	LL
PUSQUW	937.8	0.09	84.4	864.8	-1.26	60.5	4	LG
Q8ZA57	955.6	0.33	69.8	948.9	0.32	43.2	4	LG
TDXWSS	902.0	-0.39	77.7	887.8	-0.83	66.6	4	LH
TYRKU8	995.0	0.86	90.4	949.4	0.33	78.1	4	TP
U9FM7F	832.2	-1.32	109.0	922.1	-0.19	87.9	4	TS
V1W381	781.0	-2.01 *	61.2	891.4	-0.76	53.9	4	ES
WQ6KNM	919.2	-0.16	64.0	967.6	0.67	56.1	4	ER
YDER7G	926.0	-0.07	39.0	933.3	0.03	53.6	4	LL
YFPC1W	963.8	0.44	65.2	954.9	0.43	65.7	4	RP
Z9FC1R	895.2	-0.48	57.2	874.4	-1.08	63.5	4	LO
ZJ74UR	854.4	-1.02	35.6	872.2	-1.12	49.2	4	TC
ZSY9GK	1,127.2	2.62 *	52.1	1,008.3	1.43	68.7	4	MC

Consensus (All Labs) Results

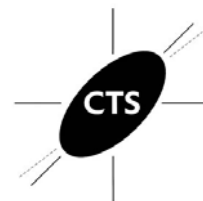
Month Mean	930.98	Grand Mean	931.94
Avg SDr	62.61	Avg SDr	62.37
SD btwn Labs	74.77	SD btwn Labs	53.39
Labs Incd	28	Labs Incd	28

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
F76VQ6	33.4	-1.28	1.1	34.2	-0.96	2.9	4	LX
GUP8K7	41.1	0.40	2.5	41.4	0.53	2.1	2	EN
MF8YP5	41.0	0.38	1.6	41.3	0.51	1.9	4	LC
MNMGPB	42.0	0.61	2.4	42.6	0.78	3.2	4	LC
X2APAM	44.2	1.10	3.0	42.3	0.71	3.3	4	TD
XY7Y2M	33.7	-1.22	1.9	31.3	-1.56	1.9	3	WK

Consensus (All Labs) Results					
Month Mean	39.22		Grand Mean	38.84	
Avg SDr	2.19		Avg SDr	2.62	
SD btwn Labs	4.55		SD btwn Labs	4.84	
Labs Incd	6		Labs Incd	6	

Instrument Code List as Reported by the Labs

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

(LX) - L&W 506

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

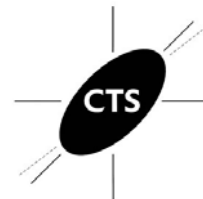
(WK) - Zwick Z005 Crush Tester

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT3
TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
18JSWJ	45.5	1.09	1.3	47.1	1.49	2.6	3	LC
1SCG46	46.4	1.38	1.7	42.3	0.09	1.5	3	LZ
1UU2CE	40.9	-0.50	1.9	38.8	-0.91	3.0	3	EN
3RU19P	45.3	1.02	2.2	44.4	0.69	1.9	3	LC
5Q5W4U	44.0	0.57	1.2	42.7	0.21	1.6	3	LX
651ZEJ	34.8	-2.60 *	1.1	34.8	-2.07*	1.2	3	XX
6A3K8V	41.3	-0.35	1.7	42.7	0.22	1.7	2	EM
78VMGY	40.1	-0.75	1.6	40.4	-0.45	1.5	3	TC
7QP8HB	40.2	-0.73	2.7	40.6	-0.39	2.6	3	TM
94FDES	43.5	0.39	0.9	43.5	0.45	1.4	3	TL
972BAG	41.0	-0.46	1.2	40.9	-0.30	1.7	3	TC
ATTJYQ	43.3	0.34	1.2	42.6	0.18	1.5	3	EN
BK4PF6	40.9	-0.51	2.5	41.4	-0.17	2.0	3	TB
CKQR8L	42.4	0.02	2.8	42.4	0.12	3.5	3	LX
CX6UAK	42.7	0.13	1.3	41.4	-0.17	1.6	3	EM
DRYUAD	42.6	0.10	2.4	42.6	0.20	1.9	3	LC
ES2MLJ	42.0	-0.10	1.9	40.3	-0.47	2.2	3	LC
FSDPNJ	44.2	0.64	1.2	43.2	0.37	1.4	3	LX
FVN1WU	34.6	-2.63 *	0.9	35.2	-1.95	1.1	3	XX
G32SUB	43.1	0.27	1.2	42.9	0.27	2.3	3	LC
GUWJSH	47.3	1.70	1.7	47.5	1.61	1.8	3	LC
H9KG5X	41.9	-0.17	1.5	41.6	-0.11	1.9	3	TA
HLANUF	42.6	0.07	1.2	45.1	0.91	1.5	2	TD
JQ8W23	39.7	-0.89	1.7	40.5	-0.42	1.8	3	EM
KNCRS2	42.3	0.00	0.9	42.8	0.25	1.2	3	TC
KP67XR	33.0	-3.20 X	2.0	34.2	-2.24*	1.6	3	CT
M2QSP4	36.7	-1.93	2.1	34.0	-2.28*	2.3	3	TK
M4U2K2	44.8	0.85	1.7	48.5	1.88	1.7	3	TD
MPZG2S	40.0	-0.81	2.6	40.8	-0.33	3.1	3	EM
NR7N4Q	41.9	-0.17	1.2	42.0	0.02	1.4	3	XX
SXH8DS	42.4	0.01	1.7	41.4	-0.16	1.9	3	LC
TTDWVX	41.9	-0.14	0.7	42.1	0.04	1.6	3	TC
WAWQJS	44.6	0.79	1.8	42.7	0.22	1.7	3	LX
WC37GN	42.1	-0.08	1.7	41.2	-0.21	1.6	2	LD
WD8AXL	67.1	8.49 X	3.9	53.3	3.27X	3.2	3	EM
WJZHGE	47.4	1.73	1.1	48.3	1.84	1.7	3	LC

Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT3
 TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
YHMCMD	45.7	1.15	2.9	46.9	1.44	2.6	3	EM
ZBJLXG	43.9	0.55	2.5	42.3	0.11	2.5	3	EN

Consensus (All Labs) Results					
Month Mean	42.33		Grand Mean	41.95	
Avg SDr	1.77		Avg SDr	1.97	
SD btwn Labs	2.92		SD btwn Labs	3.47	
Labs Incd	36		Labs Incd	37	

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 |
| (LZ) - L&W Crush Tester (model not specified) | (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 | (TK) - TLS Compression Tester, Model 5184 |
| (TL) - Tech-Lab Systems Compression | (TM) - TMI/Hinde & Dausch |
| (XX) - Instrument make/model not specified by lab | |

Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42X2
 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
1MQ5JG	101.3	102.2	105.8	108.4	104.4	-0.51	8.9	3.3	104.4	-0.51	8.9	3.3	4	AH
1RUM6C	101.2	109.8	106.0	105.1	105.5	-0.22	9.1	3.5	105.5	-0.22	9.1	3.5	4	LZ
23JZTM	102.6	108.6	118.6*	103.8	108.4	0.54	8.7	7.3 H	108.4	0.54	8.7	7.3 H	4	ah
25W4NB	110.2	111.4	105.0	106.2	108.2	0.49	9.3	3.1	108.2	0.49	9.3	3.1	4	TX
26WZQD	101.9	102.6	107.1	103.7	103.8	-0.66	10.7	2.3	103.8	-0.66	10.7	2.3	4	LP
31P5FX	No Data	102.5 H	113.2	103.3	106.3	-0.01	13.7	6.0	106.3	-0.01	13.7	6.0 H	3	LA
4E49CX	102.5	99.2	No Data	No Data	100.9	-1.45	9.8	2.3	100.9	-1.45	9.8	2.3	2	AH
5FB3VX	103.3	105.3	105.1	105.1	104.7	-0.44	7.8	1.0	104.7	-0.44	7.8	1.0	4	LA
5FPBDR	102.3	104.3	103.9	96.7	101.8	-1.21	8.7	3.5	101.8	-1.21	8.7	3.5	4	LC
5SYK2G	100.0	104.8	103.6	102.5	102.7	-0.96	9.4	2.0	102.7	-0.96	9.4	2.0	4	LA
7LZMVH	109.0	110.4	107.4	106.2	108.3	0.50	10.9	1.8	108.3	0.50	10.9	1.8	4	AH
89ZB22	104.0	98.0	101.8	108.6	103.1	-0.86	9.6	4.4	103.1	-0.86	9.6	4.4	4	TB
8JLGTD	103.1	109.7	106.4	106.5	106.4	0.02	11.2	2.7	106.4	0.02	11.2	2.7	4	LC
8WLR8C	106.5	107.8	98.7	96.9	102.5	-1.03	7.5	5.5	102.5	-1.03	7.5	5.5	4	LC
8ZBF3M	97.7	102.3	99.3	99.9	99.8	-1.73	11.6	1.9	99.8	-1.73	11.6	1.9	4	LA
9DSTM7	105.6	109.2	109.0	110.3	108.5	0.57	11.1	2.0	108.5	0.57	11.1	2.0	4	LJ
9WMHZN	112.1	114.1	110.7	102.9	110.0	0.95	10.6	4.9	110.0	0.95	10.6	4.9	4	AH
AENHVU	103.1	108.9	103.0	106.8	105.4	-0.25	10.7	2.9	105.4	-0.25	10.7	2.9	4	LC
BC9G4S	113.8	112.3	106.8	105.8	109.7	0.88	11.8	4.0	109.7	0.88	11.8	4.0	4	LA
BPGV1D	113.6	109.4	110.0	109.5 L	110.6	1.13	6.1	2.0	110.6	1.13	6.1	2.0	4	XX
BQ3SYD	104.9	111.2	101.7	103.9	105.4	-0.25	8.7	4.1	105.4	-0.25	8.7	4.1	4	TB
DES6MW	111.0	107.6	102.7	109.8	107.8	0.38	11.5	3.6	107.8	0.38	11.5	3.6	4	AX
DMY318	111.2	112.4	110.4	110.0	111.0	1.23	9.9	1.1	111.0	1.23	9.9	1.1	4	LC
EK21HX	105.9	109.3	104.3	102.0	105.4	-0.26	10.9	3.1	105.4	-0.26	10.9	3.1	4	LZ
ESGJKR	No Data	112.1	105.3	112.8	110.1	0.99	9.3	4.1	110.1	0.99	9.3	4.1	3	LA
FTYRPD	103.8	109.5	104.1	100.5	104.5	-0.50	10.2	3.7	104.5	-0.50	10.2	3.7	4	LA
GBLCP8	108.1 L	107.2	104.6	102.7	105.7	-0.19	5.5	2.5	105.7	-0.19	5.5	2.5	4	AH
GE8RF3	103.7	106.3	95.9*	101.2	101.8	-1.21	7.8	4.4	101.8	-1.21	7.8	4.4	4	TB
GNRXS2	104.1	102.8	102.1	96.7	101.4	-1.31	9.9	3.3	101.4	-1.31	9.9	3.3	4	TC
HSDFV4	113.5	106.5	110.3	105.0	108.8	0.65	11.5	3.8	108.8	0.65	11.5	3.8	4	AA
JBDF73	101.6	103.6	102.8	98.2	101.5	-1.27	9.9	2.4	101.5	-1.27	9.9	2.4	4	LA
JTTV2H	105.8	104.2	106.6	106.2	105.7	-0.17	9.5	1.1	105.7	-0.17	9.5	1.1	4	TX
JUQQ1T	98.7	102.0	105.2	103.3	102.3	-1.08	9.3	2.7	102.3	-1.08	9.3	2.7	4	AH
JYMDG1	101.9	106.8	107.6	111.5	106.9	0.16	11.8	4.0	106.9	0.16	11.8	4.0	4	LB

Containerboard Interlaboratory Testing Program
 Analysis 205
Bursting Strength (Mullen), 42 lb Linerboard - 42X2
 TAPPI Official Test Method T807

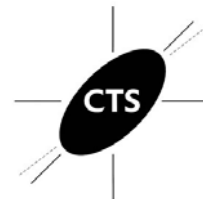


WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
JZJ4UP	104.5	105.8	104.0	107.4	105.4	-0.25	12.2	1.5	105.4	-0.25	12.2	1.5	4	LA
K3TRV7	107.5	104.7	108.4	107.6	107.1	0.18	12.1	1.6	107.1	0.18	12.1	1.6	4	LZ
KB8HBX	107.6	104.7	111.1	106.9	107.6	0.32	10.9	2.7	107.6	0.32	10.9	2.7	4	LA
KNHZ1E	104.5	114.2	107.5	99.4	106.4	0.01	11.7	6.2	106.4	0.01	11.7	6.2 H	4	AH
KSTLNM	113.6	112.0	111.5	106.5	110.9	1.20	11.0	3.1	110.9	1.20	11.0	3.1	4	AX
ME2PXJ	111.8	112.7	114.5	120.2 X	114.8	2.23*	12.8	3.8	114.8	2.23*	12.8	3.8	4	TB
MHMHSY	100.2	96.2*L	101.4 L	99.1 L	99.2	-1.89	5.4	2.2	99.2	-1.89	5.4	2.2	4	TC
MX53SK	103.5	96.2*	106.5	103.2	102.4	-1.06	10.0	4.3	102.4	-1.06	10.0	4.3	4	AX
N5C3LU	108.5	108.1	113.9	110.9	110.3	1.05	11.9	2.7	110.3	1.05	11.9	2.7	4	LA
NVHP2P	117.4*	103.2	111.4	108.3	110.1	0.99	11.6	6.0	110.1	0.99	11.6	6.0 H	4	LC
NYHDJ5	109.8	115.7	106.0	111.2	110.7	1.14	10.0	4.0	110.7	1.14	10.0	4.0	4	AH
PSTE8M	102.4	103.3	101.9	104.7	103.1	-0.87	11.0	1.2	103.1	-0.87	11.0	1.2	4	XX
PTKX8F	103.5	107.5	104.1	96.1	102.8	-0.94	8.8	4.8	102.8	-0.94	8.8	4.8	4	LJ
QE5AY5	108.4	108.0	105.5	103.6	106.4	0.00	8.8	2.3	106.4	0.00	8.8	2.3	4	TB
QVAD49	102.6	108.6	107.8	106.1	106.3	-0.02	11.2	2.7	106.3	-0.02	11.2	2.7	4	LZ
QXXTU5	110.7	119.0*	115.4	116.1*	115.3	2.37*	10.8	3.4	115.3	2.37*	10.8	3.4	4	TB
R81BZ6	96.9	109.4	107.8	109.5	105.9	-0.12	10.1	6.1	105.9	-0.12	10.1	6.1 H	4	LJ
RPJ95D	93.3*	97.8	90.4 X	98.3	95.0	-3.01 X	9.5	3.8	95.0	-3.01 X	9.5	3.8	4	LA
TUWN5G	108.8 L	114.3	116.7*	114.5 L	113.6	1.91	5.3	3.4	113.6	1.91	5.3	3.4	4	AX
U4JHZW	102.9	108.2	108.2	105.2	106.1	-0.06	9.5	2.6	106.1	-0.06	9.5	2.6	4	LA
U53M83	111.3	111.5	116.1	107.0	111.5	1.35	8.6	3.7	111.5	1.35	8.6	3.7	4	AA
UBE226	No Data	106.0	105.8	100.1	104.0	-0.63	12.0	3.4	104.0	-0.63	12.0	3.4	3	XX
UJC7YY	104.2	104.8	107.7	110.1	106.7	0.09	10.6	2.7	106.7	0.09	10.6	2.7	4	TB
VZJTVU	97.1	99.0	103.0	98.3	99.4	-1.85	10.4	2.6	99.4	-1.85	10.4	2.6	4	AH
XRJVE5	113.8	112.2	No Data	111.9	112.6	1.66	11.9	1.0	112.6	1.66	11.9	1.0	3	TB
XZNJXP	107.3	101.4	108.6	98.6	104.0	-0.62	12.2	4.8	104.0	-0.62	12.2	4.8	4	TB
ZEFEM5	108.3	108.3	114.0	108.0	109.7	0.87	10.4	2.9	109.7	0.87	10.4	2.9	4	LA

Consensus (All Labs) Results														
Wk Mean	105.66	107.00	106.96	105.09	Month Mean	106.35			Grand Mean	106.35				
Avg SDr	10.04	10.54	10.02	10.07	Avg SDr	10.22			Avg SDr	10.22				
SD btwn Labs	4.99	4.89	4.64	4.75	SD btwn Labs	3.78			SD btwn Labs	3.78				
Labs Includ	58	61	58	59	SD btwn Wks	3.54			SD btwn Wks	3.54				
Labs Exclcd	0	0	1	1	Labs Includ	60			Labs Includ	60				
Labs not rcvd	3	0	2	1										

Containerboard Interlaboratory Testing Program
Analysis 205

Bursting Strength (Mullen), 42 lb Linerboard - 42X2
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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 | (LP) - L & W Bursting Strength Tester P-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	
17CDLW	93.3	96.4	100.9*	94.3	96.2	1.38	8.5	3.4	96.3	1.65	8.6	2.3	8	AH
1VD4UW	97.1	98.7	96.6	94.2	96.7	1.50	9.1	1.9	96.0	1.57	11.1	1.9	12	AA
1WL1RC	92.2	83.1	87.8	90.7	88.4	-0.78	5.7	4.0	88.8	-0.81	7.9	2.9	12	AH
2SXDJ5	No Data	99.5	95.1	92.0	95.5	1.18	8.6	3.8	94.9	1.20	10.0	2.2	10	LA
41NLEF	94.5	89.0	94.6	93.8	92.9	0.47	8.3	2.7	92.7	0.48	8.4	1.6	11	LA
4A2FZ2	89.1	97.8	96.3	85.1	92.1	0.23	9.9	6.0	89.4	-0.61	9.9	5.0 H	12	AX
4HNMZ1	93.8	87.1	91.5	94.9	91.8	0.16	9.0	3.5	92.6	0.44	10.7	3.0	12	LA
5AQRVF	87.6	87.6	92.9	87.0	88.8	-0.69	10.5	2.8	89.7	-0.51	9.9	3.1	12	LB
5G62VG	84.0	91.4	88.7	89.8	88.5	-0.76	9.6	3.2	89.2	-0.67	10.0	2.9	12	LA
5LBRRH	93.6	87.2	91.1	95.3	91.8	0.15	6.7	3.5	89.2	-0.67	8.1	3.2	12	LA
5UPNT3	87.2	87.6	88.8	83.0	86.7	-1.27	8.0	2.5	88.1	-1.03	9.0	3.5	12	AX
62GFKU	93.5	93.2	99.0	94.9	95.1	1.08	10.0	2.7	94.3	1.00	10.2	2.8	12	LZ
6QZBZK	95.2	93.0	94.2	90.8	93.3	0.57	9.9	1.9	94.2	0.98	8.7	3.1	12	AH
8N28DU	88.6	91.5	No Data	No Data	90.1	-0.33	8.7	2.1	87.9	-1.10	7.9	4.0	3	AH
9G94PH	No Data	86.7	87.1	86.5	86.8	-1.24	8.2	0.3 L	88.3	-0.96	8.9	1.9	11	LA
9JBKPN	82.6	89.4	85.4	87.2	86.1	-1.42	10.8	2.9	87.9	-1.10	9.8	3.3	12	LC
A38Q1T	89.9	89.7	90.4	88.7	89.7	-0.44	8.7	0.7	90.8	-0.15	8.4	2.5	12	TX
AEB6LA	84.4 L	78.8 X	83.3	86.0	83.1	-2.25*	6.8	3.1	84.5	-2.21*	7.4	3.1	10	TB
AMELQW	89.8	79.9*	94.2	80.8*	86.2	-1.41	9.5	6.9 H	86.2	-1.67	9.5	6.9 H	4	LP
B4X9RX	93.7	92.7	89.3	90.0	91.4	0.04	9.6	2.1	90.5	-0.24	9.7	3.0	12	LA
BMWBJV	91.8	91.3	83.8	88.5	88.8	-0.67	8.6	3.7	92.2	0.32	9.3	4.3	11	TB
C4YNDH	89.5	88.8	85.4	90.7	88.6	-0.73	11.2	2.3	87.5	-1.24	10.4	2.0	12	LA
CDTXPK	102.5*	93.7	88.7	92.8	94.4	0.88	12.4	5.8	93.6	0.77	10.7	4.6	8	LJ
CM53BA	94.5	90.3	91.8	92.8	92.3	0.30	8.9	1.8	94.1	0.95	10.2	1.9	12	AA
CT9A71	87.5	90.1	91.7	87.3	89.2	-0.58	10.7	2.1	91.4	0.06	11.1	2.8	12	XX
D2U5GZ	92.6	93.1	90.6	88.5	91.2	-0.01	7.2	2.1	91.2	-0.01	7.2	2.1	4	TX
D3D3A6	92.5	84.7	91.7	86.5	88.8	-0.67	11.0	3.8	90.8	-0.13	9.7	3.9	11	TC
E8AHXR	84.9	90.9	88.2	88.0	88.0	-0.90	9.5	2.4	87.2	-1.34	9.1	2.6	11	LJ
FA74SV	93.6	93.4	98.6	89.7	93.8	0.71	11.0	3.7	91.2	0.00	11.2	3.2	12	AH
G35AVL	92.6	92.6	91.9	89.5	91.7	0.12	8.1	1.5	90.2	-0.33	8.5	2.4	12	LA
GNR5NT	91.5	89.6	89.9	89.9	90.2	-0.28	10.7	0.8	91.0	-0.06	10.5	3.1	12	AX
HE8P5C	92.9	93.3	96.5	94.6	94.3	0.85	10.1	1.6	92.6	0.45	9.8	2.2	12	TB
HMD77V	96.1	90.9	96.8	96.9	95.2	1.09	7.4	2.9	93.9	0.86	9.0	2.5	12	LZ
HX171B	100.7	96.3	96.0	98.5	97.9	1.83	9.4	2.2	96.4	1.69	9.0	2.1	12	TB

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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
K6F5L3	89.5	84.1	84.5	91.0	87.2	-1.11	10.7	3.5	89.3	-0.65	9.4	3.2	12	TB
KGW9EK	86.5	88.9	91.0	83.5	87.5	-1.05	8.9	3.2	87.6	-1.21	9.5	3.1	12	LC
KJ93P7	86.6	90.8	82.0*	89.7	87.3	-1.10	9.1	3.9	89.2	-0.68	9.1	2.8	12	LA
KSX3W4	91.6	93.6	93.0	87.0	91.3	0.02	11.0	3.0	89.7	-0.50	10.3	2.5	12	AH
LAPUFW	88.8	92.1	95.7	88.5	91.3	0.01	7.9	3.4	91.0	-0.07	9.7	2.6	12	LJ
LJ2D2L	98.4	96.7	97.3	100.2*	98.1	1.91	9.4	1.5	96.1	1.59	9.8	3.5	11	TB
M43AY2	91.4	88.6	88.7H	88.7	89.4	-0.52	14.2	1.4	89.7	-0.51	11.2	2.3	12	LC
MPQFMX	95.9	91.7	91.2	93.9	93.2	0.54	9.1	2.2	91.8	0.18	9.3	2.2	12	TB
MZUCZ1	93.5	96.1	89.7	96.5	94.0	0.76	7.0	3.1	96.3	1.66	6.7	4.0	7	LC
P6FY64	91.7	96.0	92.6	82.4	90.7	-0.16	9.3	5.8	90.7	-0.19	10.7	3.8	12	LZ
QBUMTL	92.2	87.8	89.4	87.0	89.1	-0.60	8.8	2.3	89.6	-0.53	9.0	2.2	9	TB
RSUKHF	98.7	95.7	93.2	95.0	95.7	1.22	9.7	2.3	95.3	1.32	10.8	2.3	12	LA
STLLHJ	102.1*	102.2*	101.4*	95.9	100.4	2.54*	6.3	3.0	96.9	1.87	7.6	3.2	12	AX
SY5WCL	98.2H	92.0	89.7	92.9	93.2	0.53	12.8	3.6	92.6	0.44	13.2	2.8	8	LC
T3HW9C	82.9	85.3	87.2	86.6	85.5	-1.59	8.2	1.9	85.0	-2.03*	8.5	2.2	8	LA
TUZMPW	95.9	91.7	93.2	96.0	94.2	0.81	7.7	2.1	94.2	0.96	9.4	2.0	12	LZ
TWTV5Z	93.4	97.3	95.5	90.7	94.2	0.83	10.0	2.8	93.9	0.87	10.4	2.0	12	AH
U3DC1M	91.9	92.5	86.0	84.5	88.7	-0.70	7.7	4.1	90.5	-0.24	6.8	3.1	12	LC
U5SBHW	No Data	90.9H	94.3	90.9	92.0	0.22	11.2	2.0	92.3	0.35	11.4	1.8	11	LA
WJ8BKL	94.4	97.9	91.1	97.2	95.1	1.08	9.3	3.1	92.8	0.52	9.9	3.0	10	LA
WUT3EX	80.7*	89.3	88.4	88.4	86.7	-1.25	10.1	4.0	87.7	-1.16	10.8	3.2	8	LA
WVKJJ7	102.4*	95.5	No Data	90.6	96.2	1.37	11.2	5.9	95.8	1.52	10.6	3.6	11	TB
WZK8ET	92.3	93.4	90.2	90.0	91.5	0.06	5.8	1.7	91.3	0.02	4.6	1.1	12	XX
X2DB2K	93.9	93.3	94.3	88.2	92.4	0.33	10.2	2.8	93.0	0.58	10.6	2.5	12	AH
XCGG1T	82.9	86.5	87.5	83.0	85.0	-1.74	9.1	2.4	85.5	-1.88	8.4	2.7	12	AH
XJRE5T	87.8L	90.2	92.0	91.4L	90.4	-0.25	4.6	1.9	92.1	0.29	6.0	2.0	12	AH
YEJLNL	92.1	88.2	87.9	92.8L	90.3	-0.28	4.3	2.5	90.9	-0.12	4.6	2.1	9	TC

Consensus (All Labs) Results									
Wk Mean	91.87	91.47	91.45	90.36	Month Mean	91.24		Grand Mean	91.23
Avg SDr	8.93	9.42	9.15	9.64	Avg SDr	9.29		Avg SDr	9.44
SD btwn Labs	4.94	4.25	4.30	4.24	SD btwn Labs	3.61		SD btwn Labs	3.04
Labs Includ	58	60	59	60	SD btwn Wks	3.15		SD btwn Wks	2.99
Labs Exclud	0	1	0	0	Labs Includ	61		Labs Includ	61
Labs not rcvd	3	0	2	1					

Containerboard Interlaboratory Testing Program
Analysis 207

Bursting Strength (Mullen), 36 lb Linerboard - 36U3
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Instrument Code List as Reported by the Labs

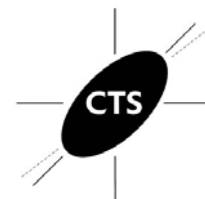
(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LB) - L & W Burst-O-Matic	(LC) - L & W Autoline
(LJ) - L & W Bursting Strength Tester J-Type	(LP) - L & W Bursting Strength Tester P-Type
(LZ) - L & W (model not specified)	(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	



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
14EJCV	85.0	86.7	85.0	86.9	85.9	-1.43	4.2	1.0	85.9	-1.43	4.2	1.0	4	LZ
1EZDLP	90.2	91.6	88.8	89.8	90.1	-0.41	3.7	1.2	90.1	-0.41	3.7	1.2	4	LC
1MUKWG	93.7	91.2	90.4	90.6 L	91.5	-0.06	3.0	1.5	91.5	-0.06	3.0	1.5	4	LD
1N77FG	93.8	92.9	97.8	90.5	93.8	0.50	3.5	3.0	93.8	0.50	3.5	3.0	4	LD
22ZQML	97.2	98.7	95.9	95.0	96.7	1.21	4.1	1.6	96.7	1.21	4.1	1.6	4	LC
2ETNQQ	95.5	91.5	91.6	93.6	93.1	0.32	4.4	1.9	93.1	0.32	4.4	1.9	4	LC
2LBAQG	94.1	96.0	94.2	95.1	94.8	0.76	2.5	0.9	94.8	0.76	2.5	0.9	4	EM
2TTDNN	91.1	88.9	85.5	96.6	90.5	-0.30	4.2	4.7	90.5	-0.30	4.2	4.7 H	4	LC
3RUSSB	87.2	87.7	84.1	86.4	86.3	-1.32	4.0	1.6	86.3	-1.32	4.0	1.6	4	EM
3VFZMB	98.6	86.8	87.5	92.7	91.4	-0.08	3.9	5.5	91.4	-0.08	3.9	5.5 H	4	LX
42UZRN	90.1	80.0 X	87.1	90.9	87.0	-1.15	2.9	5.0	87.0	-1.15	2.9	5.0 H	4	LD
44L3FN	96.8	92.2	99.1	94.7	95.7	0.97	5.0	2.9	95.7	0.97	5.0	2.9	4	MB
47F8FL	87.8	89.2 L	92.3	91.0	90.0	-0.42	2.8	2.0	90.0	-0.42	2.8	2.0	4	LC
4DGSWJ	86.6	85.3	83.6	84.0	84.8	-1.69	3.3	1.3	84.8	-1.69	3.3	1.3	4	TM
4QC2JS	87.4	88.8	86.6	85.8	87.1	-1.13	4.3	1.3	87.1	-1.13	4.3	1.3	4	TX
5LZDKG	95.0	91.1	93.5	97.2	94.2	0.61	4.1	2.5	94.2	0.61	4.1	2.5	4	TD
67Q9MZ	95.3	93.0	94.3	95.3	94.5	0.67	3.4	1.1	94.5	0.67	3.4	1.1	4	LZ
68S87E	89.2	91.6	90.9	83.1	88.7	-0.75	4.1	3.9	88.7	-0.75	4.1	3.9	4	TB
6CCPZQ	95.1	96.2	96.6	97.7	96.4	1.14	3.5	1.1	96.4	1.14	3.5	1.1	4	LC
936BR8	83.5 L	87.8	81.1 *	79.7 *	83.0	-2.14 *	3.3	3.6	83.0	-2.14 *	3.3	3.6	4	EM
9A9HY3	84.2	84.4	83.2	84.0	84.0	-1.91	3.4	0.5	84.0	-1.91	3.4	0.5	4	TQ
9PENC1	84.0 L	85.3 L	85.4	86.5	85.3	-1.58	1.8	1.0	85.3	-1.58	1.8	1.0	4	XX
9YXA1G	92.8	89.6	No Data	No Data	91.2	-0.13	3.5	2.3	91.2	-0.13	3.5	2.3	2	LC
AEWWUN	94.7	96.6	98.9	97.2	96.9	1.26	4.0	1.7	96.9	1.26	4.0	1.7	4	TC
B8GMR6	96.2	92.4	96.2	93.4	94.5	0.69	4.1	2.0	94.5	0.69	4.1	2.0	4	EM
BMD6YG	99.1	93.6	92.5	95.5	95.2	0.84	4.2	2.9	95.2	0.84	4.2	2.9	4	LC
CYDDTS	98.6	92.5	94.6	93.7	94.9	0.76	4.0	2.6	94.9	0.76	4.0	2.6	4	LD
D2EJ5C	95.0	95.9 H	94.7	97.7	95.8	1.00	5.1	1.4	95.8	1.00	5.1	1.4	4	XX
DHLY8T	97.4	99.9 *	98.2	101.2	99.2	1.83	5.0	1.7	99.2	1.83	5.0	1.7	4	LC
DJDWDD	95.5	94.1	88.1	82.1	90.0	-0.44	3.7	6.1 H	90.0	-0.44	3.7	6.1 H	4	LC
DR5S7V	90.4	88.8	90.7 L	88.1	89.5	-0.55	2.1	1.3	89.5	-0.55	2.1	1.3	4	TC
DVTTJH	90.5	91.6	95.3	94.4	93.0	0.30	4.4	2.2	93.0	0.30	4.4	2.2	4	MB
E2862U	91.3	89.0	91.9	91.9	91.0	-0.18	3.2	1.4	91.0	-0.18	3.2	1.4	4	LZ
E3AT36	78.4 *	83.3 *	81.8 *	80.9 *	81.1	-2.61 *	4.1	2.1	81.1	-2.61 *	4.1	2.1	4	XX



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
E9797Z	95.3	94.2	93.9	97.0	95.1	0.83	3.9	1.4	95.1	0.83	3.9	1.4	4	TD
EKWEJR	94.3	94.8	98.0	97.0	96.0	1.05	4.3	1.8	96.0	1.05	4.3	1.8	4	LD
ERM56S	92.6	90.7	90.6	92.0	91.5	-0.06	3.6	1.0	91.5	-0.06	3.6	1.0	4	LC
EXVNKC	101.6	98.9	No Data	No Data	100.3	2.09*	4.6	1.9	100.3	2.09*	4.6	1.9	2	MB
EYLSBY	96.5	94.4	93.9	92.3	94.3	0.62	3.4	1.7	94.3	0.62	3.4	1.7	4	LC
H85ZQ6	88.4	91.4	92.0	86.9	89.7	-0.51	4.9	2.4	89.7	-0.51	4.9	2.4	4	LC
HP2VGA	93.1	94.0	94.3	92.6	93.5	0.43	3.4	0.8	93.5	0.43	3.4	0.8	4	LD
JDY92H	94.4	88.0	94.0	95.1	92.9	0.28	4.4	3.3	92.9	0.28	4.4	3.3	4	LC
KYTKW3	87.6	94.7	92.9H	88.7	91.0	-0.19	6.3	3.4	91.0	-0.19	6.3	3.4	4	LC
LR1CL3	95.7	98.6	95.7	98.3	97.1	1.31	4.7	1.6	97.1	1.31	4.7	1.6	4	LD
MBL2LZ	100.0	97.2	99.4	98.5	98.7	1.72	3.8	1.2	98.7	1.72	3.8	1.2	4	LC
MRRKSD	87.2	89.0	90.0	89.2	88.9	-0.71	3.1	1.2	88.9	-0.71	3.1	1.2	4	EN
MZ6RUH	90.6	93.6	92.1	92.7	92.3	0.13	4.6	1.3	92.3	0.13	4.6	1.3	4	LC
NMBEUV	95.5	93.2	91.4	98.1	94.6	0.69	3.3	2.9	94.6	0.69	3.3	2.9	4	LC
NZMN1T	88.3	89.7	88.5	88.5	88.7	-0.73	4.5	0.7	88.7	-0.73	4.5	0.7	4	EN
P1KKF3	86.9	85.9	87.9H	82.5	85.8	-1.46	6.1	2.3	85.8	-1.46	6.1	2.3	4	XX
PVK6XX	95.9	97.1	98.4	97.7	97.3	1.36	3.3	1.1	97.3	1.36	3.3	1.1	4	LC
Q7SFYT	93.7	90.4	95.3	95.7	93.8	0.50	3.8	2.4	93.8	0.50	3.8	2.4	4	LC
R73J98	93.0	97.3	94.5	94.7	94.9	0.77	3.9	1.8	94.9	0.77	3.9	1.8	4	LC
RULN6F	79.7*	86.0	96.7	91.8	88.5	-0.79	5.3	7.3H	88.5	-0.79	5.3	7.3H	4	LC
UUUU28	89.2	87.6	No Data	No Data	88.4	-0.82	3.9	1.1	88.4	-0.82	3.9	1.1	2	EM
V24WR1	91.6	91.8	86.6	88.3	89.6	-0.53	4.6	2.6	89.6	-0.53	4.6	2.6	4	MZ
V62D4V	81.6H	83.2*H	80.5*	58.9XH	76.0	-3.86X	8.8	11.5H	76.0	-3.86X	8.8	11.5H	4	IM
VABLGT	88.3	92.4	94.4	86.0	90.3	-0.36	4.0	3.8	90.3	-0.36	4.0	3.8	4	LC
VM6XVR	87.0	88.0	86.2	88.8	87.5	-1.04	3.5	1.2	87.5	-1.04	3.5	1.2	4	EM
VREHZQ	92.9	91.3	88.8	89.6	90.7	-0.27	4.6	1.8	90.7	-0.27	4.6	1.8	4	LZ
W5T6RZ	90.6	95.3	94.5	95.2	93.9	0.53	3.1	2.2	93.9	0.53	3.1	2.2	4	LC
WEYDN7	92.5	93.8	91.1	90.7	92.0	0.07	4.1	1.4	92.0	0.07	4.1	1.4	4	TD
WKSEN1	97.6	93.2	87.5	91.4	92.4	0.17	4.5	4.2	92.4	0.17	4.5	4.2	4	LZ
WLCCUD	95.9	93.3L	93.4	93.8	94.1	0.58	4.0	1.2	94.1	0.58	4.0	1.2	4	LC
X8WMYA	93.7	89.2	88.2	87.1	89.6	-0.54	3.1	2.9	89.6	-0.54	3.1	2.9	4	EM
XCE8XU	No Data	95.6	95.9	96.7	96.1	1.06	3.5	0.6	96.1	1.06	3.5	0.6	3	LC
XGT996	78.8*	87.6	No Data	90.7	85.7	-1.48	4.9	6.2H	85.7	-1.48	4.9	6.2H	3	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
XSY76M	100.1	79.1 X	87.1 H	102.2 *	92.1	0.09	6.2	11.0 H	92.1	0.09	6.2	11.0 H	4	LZ
YAGCKS	89.5	92.0 L	91.7	91.1	91.0	-0.17	2.6	1.1	91.0	-0.17	2.6	1.1	4	LC
ZHX35B	87.9 L	87.7 L	88.1 L	87.7	87.8	-0.96	1.4	0.2 L	87.8	-0.96	1.4	0.2 L	4	LZ
ZSXPIP	89.5	92.0	94.1	96.1	92.9	0.29	4.3	2.8	92.9	0.29	4.3	2.8	4	LC
ZVAY5D	100.2	96.6	99.2	94.8	97.7	1.46	4.7	2.4	97.7	1.46	4.7	2.4	4	EM

Consensus (All Labs) Results										
Wk Mean	91.81	91.62	91.52	91.80	Month Mean	91.74		Grand Mean	91.74	
Avg SDr	4.05	4.30	4.27	3.67	Avg SDr	4.03		Avg SDr	4.03	
SD btwn Labs	5.20	3.94	4.77	5.00	SD btwn Labs	4.07		SD btwn Labs	4.07	
Labs Includ	71	70	68	68	SD btwn Wks	2.90		SD btwn Wks	2.90	
Labs Exclud	0	2	0	1	Labs Includ	71		Labs Includ	71	
Labs not rcvd	1	0	4	3						

Instrument Code List as Reported by the Labs

- | | |
|---|--|
| (EM) - Emerson 1200 | (EN) - Emerson 2200 |
| (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 |



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	
1A18GH	78.5	73.8	81.1	82.2	78.9	0.17	5.1	3.8	79.9	0.41	4.3	2.6	12	LC
1RNYNS	No Data	80.3	82.5	83.6	82.1	1.09	3.8	1.7	82.1	1.04	4.5	1.9	11	LC
2EB6HX	78.4	77.6	81.3	83.4 L	80.2	0.54	3.2	2.7	80.3	0.53	3.5	2.1	12	LC
2JEBLP	74.1	78.0	75.5	78.1	76.4	-0.53	3.4	2.0	76.0	-0.72	3.1	1.5	12	LC
2PH92F	81.0	83.4	79.7	80.6	81.2	0.82	4.1	1.6	79.2	0.21	3.8	2.5	8	EM
3QKR6D	71.5	72.7	69.6	71.4	71.3	-1.97	4.7	1.3	73.9	-1.33	4.9	2.8	12	EM
5DLY4B	65.1 *H	67.3 *	65.3 X	47.6 XH	61.4	-4.77 X	7.1	9.2 H	56.4	-6.42 X	7.1	10.9 H	12	IM
5JW4QJ	73.2	72.7	74.6	73.3	73.4	-1.36	3.4	0.8	74.6	-1.14	3.6	2.7	8	LC
5YWA8Z	88.1 *	86.4	85.9	83.1	85.9	2.14 *	4.6	2.1	84.9	1.85	4.6	1.9	12	EM
6PT1AM	77.3	77.6	80.0	76.1	77.8	-0.15	4.2	1.6	78.7	0.06	4.6	2.7	12	LC
6RUFRC	74.8	76.6	77.7	77.5	76.6	-0.46	4.4	1.3	76.1	-0.69	4.0	1.7	8	LD
739TGL	87.5	81.2	No Data	No Data	84.4	1.72	4.4	4.5	84.5	1.74	3.6	5.8 H	6	MB
74ZW77	86.8	78.5	79.4	79.3	81.0	0.77	4.1	3.9	78.6	0.04	4.2	3.6	8	LC
8A5DHZ	72.8	75.6	72.3	75.2	74.0	-1.21	3.9	1.7	74.2	-1.25	4.0	1.3	12	EM
94WEHU	78.2	76.6	76.8	76.2 H	76.9	-0.38	5.0	0.9	77.2	-0.38	4.7	0.9	12	TD
9LILEP	84.4	82.8	81.2	82.3	82.7	1.24	4.4	1.3	82.0	1.02	4.3	1.3	11	LC
AACGXV	84.3	76.3	80.5	86.7	82.0	1.04	4.0	4.5	83.5	1.44	4.6	4.6	8	LZ
B78DWD	73.7	85.2	85.5	74.7	79.8	0.42	5.1	6.5 H	77.6	-0.28	4.7	4.1	12	LC
BAK8WC	82.9	88.2 *	78.3	80.5	82.5	1.18	5.0	4.2	86.4	2.29 *	4.5	4.7	12	LC
BBP6LL	78.1	82.6	80.1	83.5	81.1	0.79	5.4	2.5	82.5	1.15	4.8	2.0	11	LC
BT721E	78.7	80.1	77.7	79.1	78.9	0.18	4.3	1.0	81.3	0.80	4.6	3.2	10	LZ
C14GJE	79.7	79.2	83.0	80.2	80.5	0.64	4.2	1.7	80.6	0.59	4.4	2.3	12	XX
C7S74P	77.9	79.0	77.4	76.5	77.7	-0.16	4.0	1.0	78.6	0.04	3.6	1.7	12	EN
CF7D6S	79.8	79.0	78.9	78.8	79.1	0.24	3.3	0.5 L	79.8	0.38	3.6	1.6	12	LC
CGFCEF	77.7	79.8	81.0	81.0	79.9	0.45	3.7	1.6	80.3	0.51	4.2	1.7	12	MB
DM2A59	72.3	68.0	71.0	74.4	71.4	-1.93	3.0	2.7	71.6	-2.01 *	3.4	2.2	12	TM
DY59M7	84.6	66.4 *	72.6	85.2 L	77.2	-0.30	3.9	9.2 H	73.4	-1.49	5.1	7.0 H	12	LZ
EABKM2	72.1	73.6	72.2	72.0	72.5	-1.64	4.6	0.8	73.5	-1.45	4.9	5.4 H	12	EN
EU13DE	78.0	78.2	78.4	80.2	78.7	0.12	4.1	1.0	79.5	0.29	3.8	1.8	12	LC
FA11Q4	73.2	79.9	76.0	70.3	74.8	-0.97	2.7	4.1	74.8	-1.09	3.2	2.6	12	TB
FSQKR3	81.3	74.9	79.1	82.2	79.4	0.30	3.8	3.3	80.4	0.55	4.0	2.9	10	LD
GD7DFH	80.6	81.5	82.1	83.0	81.8	0.99	3.8	1.0	80.7	0.63	3.6	1.5	8	TC
H21M4P	84.4 H	80.6	81.0	85.0	82.8	1.26	5.2	2.3	82.3	1.10	5.4	3.8	12	LD
HCN7FJ	77.5	74.6	77.0	77.4	76.6	-0.47	4.5	1.4	77.3	-0.36	3.9	1.0	11	LC

Containerboard Interlaboratory Testing Program

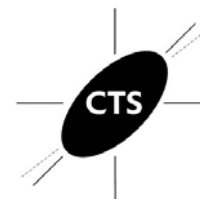
Analysis 217

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
J76XFE	81.3	77.2	78.3	79.6 H	79.1	0.23	5.0	1.8	78.3	-0.07	4.5	1.3	12	LC
JFWFUN	87.3	84.2	83.3	86.0	85.2	1.95	4.4	1.8	84.3	1.68	4.6	1.7	12	LC
JHE25A	80.0	80.5	78.7	82.1	80.3	0.58	4.1	1.4	79.8	0.36	4.3	1.9	12	LD
JNLVXL	74.5	70.7	No Data	76.7	74.0	-1.22	5.6	3.0	77.7	-0.23	4.6	3.6	11	LC
K3VBT8	78.9	74.2	No Data	No Data	76.5	-0.49	4.0	3.3	81.6	0.90	3.9	3.5	10	LC
L44SG6	72.9	73.4	75.9	71.4	73.4	-1.37	3.0	1.9	73.8	-1.38	3.0	1.1	12	EM
L5KQNG	71.0	74.5	No Data	No Data	72.7	-1.56	4.7	2.5	73.1	-1.56	4.1	1.9	3	EM
L77JSS	77.4	78.5	78.5	75.8	77.6	-0.20	3.3	1.3	77.8	-0.21	2.9	2.1	12	TQ
LAAZZ1	85.9	83.7	85.2	83.1	84.5	1.74	4.2	1.3	83.8	1.53	4.4	1.1	12	LC
LRZKNV	85.1	79.5	75.1	76.6	79.1	0.23	4.6	4.4	77.4	-0.32	4.1	4.0	12	LX
LS7C9B	73.9	74.2	74.1 L	73.6	73.9	-1.22	3.0	0.3 L	74.5	-1.18	3.3	1.1	12	TX
M56EQ3	75.7	84.9 H	85.8	77.1	80.9	0.73	5.5	5.2	77.0	-0.45	5.0	4.5	12	LC
MMA8TC	78.4	80.0	76.7	82.5	79.4	0.32	3.8	2.5	76.8	-0.51	4.0	3.4	11	LC
MXFM4W	77.2	78.4 L	76.1	77.4 L	77.3	-0.28	2.0	1.0	77.1	-0.41	2.3	0.6	12	EM
N7J2N9	77.3	77.9	75.8	74.8	76.4	-0.52	3.9	1.4	79.6	0.31	4.0	2.7	12	MZ
PP7KJ9	77.6	79.0	74.0	82.0	78.2	-0.03	5.3	3.3	82.6	1.19	4.7	4.0	12	LZ
PUA4BZ	82.1	80.1	84.8	82.8	82.5	1.18	4.0	1.9	84.4	1.72	3.9	2.8	9	LC
Q8MLF2	74.6	75.5	73.1	76.4	74.9	-0.95	3.2	1.4	75.1	-0.98	3.6	2.2	12	LD
Q9BD7T	73.0	74.0	76.8	72.8	74.1	-1.17	4.4	1.8	76.5	-0.58	4.3	2.2	12	EM
QCF2RP	79.4	80.7	80.5	80.7	80.3	0.57	3.7	0.6	80.7	0.63	3.6	1.1	12	TD
QYMBAH	62.4 XH	76.8 H	87.6 *	81.1	77.0	-0.36	5.9	10.7 H	77.0	-0.45	5.9	10.7 H	4	LC
R3NLMY	78.3	73.6	76.3	80.2 H	77.1	-0.33	4.7	2.8	77.6	-0.27	4.1	2.8	12	LC
RVYC9T	84.7	78.9	79.6	85.4	82.2	1.09	3.3	3.4	81.9	0.98	4.2	2.6	10	LC
RZVY52	79.4	77.0	77.7	80.8	78.7	0.13	3.7	1.7	78.6	0.03	3.6	1.7	12	LC
T9UN94	73.6	69.2	71.9	72.4	71.8	-1.83	3.8	1.9	73.8	-1.38	3.9	4.3	12	LZ
UAWXLT	76.2 L	77.0	77.3	76.3	76.7	-0.44	2.3	0.5 L	75.5	-0.88	2.8	2.0	12	LZ
UERZ8E	76.3	76.3	77.0	79.2	77.2	-0.30	3.3	1.4	79.5	0.29	4.8	2.9	12	EX
V21ZWR	82.0	83.1	81.4	81.4	82.0	1.04	3.7	0.8	82.7	1.23	3.7	1.9	12	TD
V2MJ4U	73.3	72.9	73.7	75.7	73.9	-1.23	3.5	1.2	76.6	-0.55	4.8	7.2 H	12	LC
VR3GZA	78.1	79.4	81.0	80.4	79.7	0.41	4.5	1.3	81.1	0.75	4.5	2.6	12	LD
VRCDK1	80.0	77.4	76.8	82.8 H	79.2	0.27	5.2	2.8	79.7	0.35	4.9	2.5	12	MB
VSHGXB	80.8	77.3	77.4	78.1	78.4	0.04	3.5	1.6	80.3	0.52	4.3	2.3	12	LC
VYLVUT	84.2	87.3 *	83.3	84.0	84.7	1.81	3.9	1.8	76.9	-0.47	3.9	6.5 H	12	LD



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
WV6CS4	65.1*	67.9	67.4*	66.4*L	66.7	-3.27X	2.7	1.2	66.8	-3.40X	2.5	0.9	8	XX
WZUD4P	63.1X	67.5*	71.1	67.6*	67.3	-3.08X	4.5	3.3	71.1	-2.14*	3.7	4.0	12	XX
Y18VWS	76.6	76.3	75.8	74.9	75.9	-0.66	2.4	0.8	76.3	-0.65	3.9	1.7	12	LC
Y6S6HH	77.8	74.3	73.9	83.4	77.4	-0.26	3.8	4.4	78.3	-0.07	3.2	3.2	12	LC
Y943PT	73.2	69.0	74.4	73.6	72.6	-1.61	3.9	2.4	74.8	-1.07	3.1	2.5	12	XX
ZXXDV9	75.5	73.6	75.4	76.2	75.2	-0.88	2.8	1.1	74.6	-1.14	2.7	1.1	11	TC

Consensus (All Labs) Results

Wk Mean	78.10	77.32	77.95	78.61	Month Mean	78.27	Grand Mean	78.52
Avg SDr	4.18	4.21	3.96	4.11	Avg SDr	4.12	Avg SDr	4.13
SD btwn Labs	4.86	4.78	4.19	4.49	SD btwn Labs	3.55	SD btwn Labs	3.44
Labs Includ	70	73	68	69	SD btwn Wks	2.95	SD btwn Wks	3.27
Labs Exclud	2	0	1	1	Labs Includ	70	Labs Includ	71
Labs not rcvd	1	0	4	3				

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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
1P2EMU	23.2 L	23.1 L	23.5 L	22.8 L	23.1	-1.51	0.4	0.3	23.1	-1.51	0.4	0.3	4	LA
1QD7GW	24.5	24.1	23.6	23.5	23.9	-0.60	1.7	0.4	23.9	-0.60	1.7	0.4	4	LU
23BK7S	No Data	24.2	23.6	24.2	24.0	-0.52	1.6	0.3	24.0	-0.52	1.6	0.3	3	XX
2J5FY4	23.9	25.1 H	No Data	24.0	24.4	-0.12	4.2	0.7	24.4	-0.12	4.2	0.7	3	LW
3K3ZLV	25.8	25.6	25.3	25.4	25.5	1.23	2.2	0.2	25.5	1.23	2.2	0.2	4	XX
4ZAYUF	25.3	25.4	25.3	25.4	25.3	1.00	1.4	0.0 L	25.3	1.00	1.4	0.0 L	4	LU
5BYKDF	24.7 L	25.7 L	26.3 L	26.4 *L	25.8	1.48	0.0	0.8	25.8	1.48	0.0	0.8	4	LU
5J99UU	25.9	25.4	24.9	25.5	25.4	1.09	2.1	0.4	25.4	1.09	2.1	0.4	4	LU
5ZWWTS	25.7 L	24.4 L	25.1 L	24.5 L	24.9	0.55	0.1	0.6	24.9	0.55	0.1	0.6	4	TS
68CZ45	22.9	22.5 *	22.7	23.5	22.9	-1.80	1.9	0.5	22.9	-1.80	1.9	0.5	4	XX
B35YQ9	25.0	23.1	22.8	23.0	23.5	-1.12	1.7	1.0	23.5	-1.12	1.7	1.0	4	LZ
BDL7EH	23.3	24.3	24.6	24.1	24.1	-0.43	2.4	0.6	24.1	-0.43	2.4	0.6	4	LW
BN8642	24.7	23.3	24.3	23.7	24.0	-0.55	1.7	0.6	24.0	-0.55	1.7	0.6	4	LW
BRQGS6	27.8 *	24.9	24.1	24.3	25.3	0.97	2.0	1.7 H	25.3	0.97	2.0	1.7 H	4	LU
BZXX26	23.6 L	23.4 L	23.4 L	23.1 L	23.4	-1.25	0.5	0.2	23.4	-1.25	0.5	0.2	4	XX
C7XT5G	23.6	22.9	24.1	23.2	23.5	-1.14	2.1	0.5	23.5	-1.14	2.1	0.5	4	LZ
CNLZGG	No Data	27.3 *	26.6 *	25.2	26.4	2.18 *	1.7	1.1	26.4	2.18 *	1.7	1.1	3	LU
CPBF55	25.6	25.1	25.4	25.4	25.4	1.05	1.0	0.2	25.4	1.05	1.0	0.2	4	LW
DL722C	22.1 L	24.9 L	22.7 L	21.9 *L	22.9	-1.76	0.4	1.4	22.9	-1.76	0.4	1.4 H	4	XX
FQJJVR	26.4	38.1 X	37.5 X	23.9	31.5	8.02 X	2.4	7.4 H	31.5	8.02 X	2.4	7.4 H	4	LW
G93DTL	23.9 L	25.0 L	25.0 L	25.4 L	24.8	0.40	0.5	0.7	24.8	0.40	0.5	0.7	4	LA
GG7AY3	22.6	23.4	24.8	24.5	23.8	-0.75	2.4	1.0	23.8	-0.75	2.4	1.0	4	LW
H5HLZA	24.2	23.7	No Data	No Data	24.0	-0.58	2.1	0.4	24.0	-0.58	2.1	0.4	2	BK
H7EEBS	23.7	24.9	24.8	24.8	24.5	0.09	2.0	0.6	24.5	0.09	2.0	0.6	4	XX
H9W4GS	26.1	25.9	26.1	24.8	25.7	1.44	2.4	0.6	25.7	1.44	2.4	0.6	4	LZ
K71GK6	24.3	24.1	23.8	24.4	24.1	-0.36	1.7	0.3	24.1	-0.36	1.7	0.3	4	LW
L84Y34	23.9	25.1	23.8	24.4	24.3	-0.22	2.3	0.6	24.3	-0.22	2.3	0.6	4	LA
MYXXBH	23.9	25.4	No Data	No Data	24.7	0.22	2.1	1.1	24.7	0.22	2.1	1.1	2	LZ
NWVYT9	23.8	24.6	24.7	24.0	24.3	-0.20	1.9	0.5	24.3	-0.20	1.9	0.5	4	LW
PJW3WT	24.1	24.2	23.3	23.5	23.8	-0.79	2.2	0.5	23.8	-0.79	2.2	0.5	4	LU
PW7CYA	24.3	25.3	24.2	24.1	24.5	0.01	1.9	0.5	24.5	0.01	1.9	0.5	4	XX
QDX8BW	26.7	25.2	26.4	25.6	26.0	1.75	2.1	0.7	26.0	1.75	2.1	0.7	4	XX
R4GKBW	25.2	No Data	24.0	23.0	24.1	-0.41	2.5	1.1	24.1	-0.41	2.5	1.1	3	LA
R9KHSN	25.0	25.1	24.5	25.0	24.9	0.52	1.8	0.3	24.9	0.52	1.8	0.3	4	BK



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
RPE7LY	24.0	23.8	24.6	24.1	24.1	-0.36	2.3	0.3	24.1	-0.36	2.3	0.3	4	LW
T7KBBE	48.7 X	23.9	25.4	25.8	30.9	7.39 X	2.8	11.9 H	30.9	7.39 X	2.8	11.9 H	4	LU
TQGA81	No Data	26.5	25.8	26.0	26.1	1.87	2.1	0.4	26.1	1.87	2.1	0.4	3	LU
TSADGF	24.0	25.0	25.0	25.4	24.8	0.43	2.2	0.6	24.8	0.43	2.2	0.6	4	LW
TXWCMV	20.3 X	19.7 X	20.8 X	19.4 X	20.0	-5.07 X	1.6	0.6	20.0	-5.07 X	1.6	0.6	4	LZ
UNA3P8	24.2	24.6	24.4	23.9	24.3	-0.23	1.9	0.3	24.3	-0.23	1.9	0.3	4	LW
UXCJEC	No Data	23.4	24.3	22.4	23.4	-1.26	2.2	0.9	23.4	-1.26	2.2	0.9	3	LW
VR7EBC	22.6	24.3	23.8	24.3	23.7	-0.82	2.1	0.8	23.7	-0.82	2.1	0.8	4	LW
VT3U1G	26.2	24.7	24.4	24.3	24.9	0.50	2.3	0.9	24.9	0.50	2.3	0.9	4	LW
WH736P	23.5	24.3	24.6	24.3	24.2	-0.34	2.1	0.5	24.2	-0.34	2.1	0.5	4	LU
XBTCW9	25.3	25.7	24.0	24.1	24.8	0.35	2.2	0.9	24.8	0.35	2.2	0.9	4	XX

Consensus (All Labs) Results									
Wk Mean	24.50	24.59	24.50	24.31	Month Mean	24.46	Grand Mean	24.46	
Avg SDr	1.88	2.14	1.87	1.86	Avg SDr	1.97	Avg SDr	1.97	
SD btwn Labs	1.25	1.01	0.97	0.99	SD btwn Labs	0.88	SD btwn Labs	0.88	
Labs Includ	39	42	40	42	SD btwn Wks	0.70	SD btwn Wks	0.70	
Labs Exclud	2	2	2	1	Labs Includ	42	Labs Includ	42	
Labs not rcvd	4	1	3	2					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

(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	
2AFQH3	20.2	22.0	No Data	No Data	21.1	0.02	1.9	1.3	21.2	-0.13	1.8	0.9	3	LZ
3DW2N6	No Data	20.6	20.5	19.7	20.3	-0.79	1.9	0.5	20.4	-0.95	1.8	0.6	10	LW
3MVGYX	20.5	20.3	19.3	20.9	20.2	-0.84	1.4	0.7	19.7	-1.65	1.6	1.2	12	LU
3QMQRS	20.1	20.1	19.5	19.5	19.8	-1.28	1.6	0.3	20.7	-0.63	1.7	1.0	12	LZ
3YZW8G	21.0	20.8	20.7	21.3	20.9	-0.11	1.5	0.3	20.8	-0.49	1.4	0.4	12	LU
49K8SZ	19.1 L	21.2 L	21.5 L	21.7 L	20.9	-0.18	0.3	1.2	20.6	-0.77	0.4	1.0	12	LA
5Y2NQU	21.6	22.4	22.2	21.9	22.0	0.97	1.7	0.4	22.0	0.82	1.7	0.6	11	XX
6LQK2B	21.5	21.2	21.2	21.4	21.3	0.28	1.1	0.1	21.2	-0.13	1.1	0.3	12	LW
6XXM6F	20.0	20.1	19.2	19.2	19.6	-1.46	2.2	0.5	20.8	-0.54	2.1	1.2	12	LZ
6Y6LE4	38.4 X	20.5	20.9	22.8	25.7	4.67 X	2.1	8.6 H	25.7	4.73 X	2.1	8.6 H	4	LU
77YTHP	No Data	23.5 *	22.5	21.4	22.5	1.43	1.5	1.1	21.7	0.50	1.6	0.9	11	LU
ADRQRF	20.9	20.1	22.1	22.8	21.5	0.41	1.9	1.2	21.6	0.35	2.0	0.8	12	LW
AMX4H3	20.3	20.3	20.7	20.2	20.4	-0.69	1.8	0.2	20.9	-0.45	1.8	0.7	12	LW
B6PGQ1	19.8	19.8	19.5	19.6	19.7	-1.41	1.7	0.1	19.6	-1.77	1.7	0.4	12	XX
BPFCDG	23.6 *	21.3	20.2	20.3	21.3	0.30	1.9	1.6 H	21.0	-0.29	1.8	1.1	12	LU
BSP2ZK	20.7	21.3	No Data	23.4	21.8	0.77	3.2	1.4	22.4	1.18	3.2	1.3	10	LW
C1HKZD	21.1	21.1	20.2	21.1	20.9	-0.16	2.1	0.4	20.3	-1.04	1.9	0.7	12	LW
C56QEV	23.2	35.8 X	34.2 X	21.4	28.6	7.70 X	1.8	7.4 H	23.7	2.57 *	1.7	5.7 H	11	LW
CHQD6F	21.6	21.0	20.9	20.9	21.1	0.06	1.9	0.4	21.0	-0.30	1.7	0.4	12	LW
CJXXNP	18.5 *L	21.4 L	20.1 L	18.0 *L	19.5	-1.61	0.3	1.5 H	19.8	-1.54	0.4	1.3	12	XX
D4XF99	21.4	No Data	20.3	19.9	20.5	-0.54	2.6	0.8	20.0	-1.38	2.4	1.3	6	LA
DBPYAB	17.9 *	19.6	18.5 *	17.9 *	18.5	-2.63 *	1.5	0.8	25.6	4.63 X	1.7	6.8 H	9	LZ
E3VMJA	21.7	21.5	20.4	22.0	21.4	0.35	1.8	0.7	22.5	1.33	1.9	1.7	12	LA
EBXXPM	20.6	21.3	21.6	21.8	21.3	0.28	2.0	0.6	21.2	-0.11	1.9	0.6	11	XX
F294PH	20.9	20.6	21.4	21.0	21.0	-0.10	1.8	0.3	20.7	-0.61	1.8	0.6	12	LW
GWK9YG	20.6	21.6	19.8	20.7	20.7	-0.38	1.5	0.7	20.9	-0.44	1.4	0.9	12	LU
KBDQZC	21.8 L	21.4 L	20.5 L	21.4 L	21.3	0.22	0.1	0.6	22.4	1.22	0.1	2.5 H	12	TS
KP5T8Q	20.8	22.0	23.3	22.1	22.1	1.01	1.7	1.0	22.3	1.05	1.6	0.8	12	LZ
LK4LKD	21.3	22.4	22.7	21.1	21.9	0.83	2.3	0.8	21.7	0.42	2.0	0.6	12	BK
LM5QN8	19.8	20.0	19.4	20.9	20.0	-1.03	2.1	0.6	21.2	-0.09	1.9	1.1	12	LW
LXPJDP	20.2	21.1	21.4	20.1	20.7	-0.36	1.8	0.7	21.0	-0.33	1.8	0.6	8	LW
M7GFAW	20.7 L	20.9 L	21.4 L	21.1 L	21.0	-0.03	0.4	0.3	20.0	-1.34	0.3	1.0	12	XX
MBYEJQ	No Data	21.6	21.6	22.4	21.9	0.82	1.4	0.5	21.6	0.31	1.4	0.8	11	XX
MTKEU1	23.6 *	22.6	22.8	23.0	23.0	1.97	1.7	0.4	23.2	2.10 *	1.7	0.5	12	XX



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
NWTQNN	20.4	20.6	21.9	20.7	20.9	-0.15	1.9	0.7	21.8	0.54	1.9	0.8	12	LW
QG8HSG	22.5	21.8	21.4	21.7	21.8	0.80	1.9	0.5	22.8	1.63	2.5	1.6	8	XX
R3YQFN	21.3	21.1	21.5	21.9	21.5	0.43	1.5	0.3	21.4	0.12	1.6	0.3	11	BK
U5CF5G	22.2	20.4	21.7	21.3	21.4	0.32	1.8	0.8	20.9	-0.36	1.7	0.7	12	XX
U6K9NH	No Data	23.4*	23.2	23.4	23.3	2.31*	1.7	0.1 L	22.4	1.23	1.8	1.2	11	LU
UG7KHN	21.3	20.2	20.0	20.1	20.4	-0.65	1.8	0.6	20.6	-0.73	1.9	0.5	8	LU
VM8RAR	20.6	20.7	21.0	19.9	20.6	-0.51	1.7	0.5	20.8	-0.56	1.7	0.6	12	LU
XGCQ9P	23.0 L	22.5 L	24.2* L	22.8 L	23.1	2.07*	0.0	0.7	22.3	1.07	0.0	1.4	12	LU
XW82R5	22.1	22.0	21.3	21.1	21.6	0.56	1.6	0.5	21.6	0.40	1.7	0.4	10	LW
YBPNFV	21.7	21.5	No Data	No Data	21.6	0.53	1.8	0.2	22.2	0.95	1.9	0.7	6	BK
ZT24RW	20.6 L	18.8* L	20.3 L	19.6 L	19.8	-1.25	0.4	0.8	20.8	-0.55	1.0	1.5	12	LA
ZUUNM9	20.3	20.3	20.9	20.5	20.5	-0.59	1.8	0.3	20.7	-0.63	1.8	0.4	12	LW

Consensus (All Labs) Results

Wk Mean	20.99	21.11	21.04	21.04	Month Mean	21.05	Grand Mean	21.27
Avg SDr	1.68	1.85	1.63	1.61	Avg SDr	1.72	Avg SDr	1.72
SD btwn Labs	1.20	0.98	1.21	1.27	SD btwn Labs	0.99	SD btwn Labs	0.93
Labs Includ	41	44	42	44	SD btwn Wks	0.73	SD btwn Wks	1.30
Labs Exclud	1	1	1	0	Labs Includ	44	Labs Includ	44
Labs not rcvd	4	1	3	2				

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

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

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

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
1SLQXY	115.4	-0.26	18.1	115.4	-0.26	18.1	1	EV
28N87P	107.4	-0.56	14.7	107.4	-0.56	14.7	1	LA
5AKVA3	176.8	2.01 *	27.3	176.8	2.01 *	27.3	1	EV
6G41EU	238.9	4.30 X	22.8	238.9	4.30 X	22.8	1	EV
87JU8Q	131.3	0.33	12.6	131.3	0.33	12.6	1	EV
B67RW1	145.7	0.86	12.9	145.7	0.86	12.9	1	EV
C4SWA9	135.9	0.50	10.3	135.9	0.50	10.3	1	EV
CTVG9H	184.8	2.30 *	12.5	184.8	2.30 *	12.5	1	EV
DKD8J1	102.6	-0.73	11.4	102.6	-0.73	11.4	1	EV
GR2TTC	63.6	-2.18 *	15.2	63.6	-2.18 *	15.2	1	EV
HMK5ZK	113.3	-0.34	3.1	113.3	-0.34	3.1	1	XX
LJTJYF	117.3	-0.19	14.5	117.3	-0.19	14.5	1	EV
MVAHLM	100.7	-0.80	9.5	100.7	-0.80	9.5	1	EV
N1ZFUA	119.1	-0.12	12.8	119.1	-0.12	12.8	1	EV
QFZERX	141.5	0.70	18.8	141.5	0.70	18.8	1	EV
RKG794	106.1	-0.61	9.6	106.1	-0.61	9.6	1	EV
S5TV52	119.1	-0.12	13.0	119.1	-0.12	13.0	1	EV
T2CVQX	141.8	0.71	10.6	141.8	0.71	10.6	1	EV
TNUS73	108.3	-0.52	10.7	108.3	-0.52	10.7	1	XX
XD763F	108.9	-0.50	19.8	108.9	-0.50	19.8	1	EV
XFPBKX	109.8	-0.47	17.4	109.8	-0.47	17.4	1	EV

Consensus (All Labs) Results			
Month Mean	122.47	Grand Mean	122.47
Avg SDr	14.57	Avg SDr	14.57
SD btwn Labs	27.08	SD btwn Labs	27.08
Labs Incd	20	Labs Incd	20

Instrument Code List as Reported by the Labs

(EV) - Emveco Microgauge Model 210-R

(LA) - L & W Autoline

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

Containerboard Interlaboratory Testing Program
Analysis 231

Internal Bond, 42 lb Linerboard - 42X1
TAPPI Provisional Test Method T569



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
53GG32	73.4	-2.03 *	9.3	85.5	-2.08*	6.8	4	TM
57JC7M	94.6	-0.65	4.4	97.1	-0.92	4.4	4	SC
5N11YX	139.8	2.31 *	7.8	126.5	2.05*	7.4	4	SC
724GH3	98.4	-0.40	8.4	101.6	-0.46	7.7	4	SC
9SYJ11	119.0	0.95	4.3	113.5	0.74	9.5	3	HY
CPEXN3	111.0	0.43	9.4	109.3	0.32	6.3	3	TM
DNJT9L	110.6	0.40	7.4	115.6	0.95	7.4	4	SC
FTMCFG	97.0	-0.49	7.9	96.6	-0.96	6.2	4	TM
FYCWPZ	99.6	-0.32	3.8	103.7	-0.25	5.5	4	TM
HESU1A	104.8	0.02	8.0	110.5	0.44	10.3	4	HZ
HXDRKV	82.4	-1.45	5.0	98.3	-0.79	6.4	4	XX
R4GYZX	116.4	0.78	9.0	118.7	1.27	8.1	4	TM
S951K8	107.1	0.17	4.3	108.5	0.23	4.2	4	HY
TCVULP	98.3	-0.40	5.4	100.8	-0.54	12.2	3	SC
WPHXMK	115.1	0.69	5.7	108.6	0.25	8.4	4	SC
X517VZ	104.4	-0.01	6.3	103.6	-0.26	6.0	4	HY

Consensus (All Labs) Results			
Month Mean	104.49	Grand Mean	106.13
Avg SDr	6.91	Avg SDr	7.59
SD btwn Labs	15.29	SD btwn Labs	9.92
Labs Incd	16	Labs Incd	16

Instrument Code List as Reported by the Labs

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

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

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2AW218	26.6	-0.56	5.3	29.1	0.06	4.0	3	ZZ
345HCD	28.6	0.02	2.8	28.8	-0.04	2.4	4	ZZ
3R27SC	30.4	0.55	3.9	29.4	0.15	3.9	4	ZZ
74B9GR	29.2	0.20	3.4	29.4	0.15	3.6	4	ZZ
7BN1FH	23.9	-1.36	2.2	27.5	-0.43	4.4	4	ZZ
7JVC1L	24.0	-1.32	2.2	22.6	-1.98	2.9	3	ZZ
7MM8FT	28.4	-0.04	2.5	28.2	-0.22	2.4	4	ZZ
7YNGD4	36.4	2.30 *	4.3	36.0	2.25 *	3.0	4	ZZ
ACWGQ6	25.6	-0.85	1.3	34.9	1.89	2.4	3	ZZ
BMR362	30.7	0.64	2.3	29.6	0.23	3.1	4	ZZ
FAMVJM	28.6	0.02	0.4	27.1	-0.56	0.6	4	ZZ
GQZJLE	25.4	-0.91	4.2	27.2	-0.53	3.3	4	ZZ
K1P3DW	28.6	0.02	4.0	27.9	-0.33	3.3	4	ZZ
M11ZVS	36.2	2.24 *	3.5	35.4	2.06 *	4.4	4	ZZ
RDBYV1	29.9	0.40	3.7	29.0	0.04	3.1	4	ZZ
RM222X	30.2	0.49	3.1	27.1	-0.57	2.3	3	ZZ
S3BJSH	28.4	-0.04	2.7	29.5	0.18	3.1	3	ZZ
SRJZBR	31.0	0.72	1.8	29.1	0.06	2.9	4	ZZ
TZ2JR3	29.6	0.31	1.7	29.9	0.31	2.3	3	ZZ
U87NDC	26.0	-0.74	3.7	24.3	-1.45	2.8	4	ZZ
W88L2Y	29.8	0.37	2.2	28.9	-0.01	1.6	4	ZZ
WL3U2E	26.4	-0.62	2.3	29.0	0.03	4.5	4	ZZ
ZF4E53	22.2	-1.85	0.8	24.9	-1.27	2.1	4	ZZ

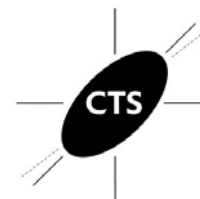
Consensus (All Labs) Results			
Month Mean	28.52	Grand Mean	28.88
Avg SDr	3.04	Avg SDr	3.12
SD btwn Labs	3.43	SD btwn Labs	3.17
Labs Incd	23	Labs Incd	23

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
3XGZSA	15.2	-0.53	3.0	14.5	-0.96	2.1	4	GS
5VSN7G	16.7	-0.01	3.6	16.7	0.16	3.6	1	HG
6656L5	13.9	-1.00	2.5	14.3	-1.08	2.4	4	LP
69CK6H	14.1	-0.95	1.3	14.2	-1.16	1.6	4	LA
6FNQKK	18.7	0.74	4.6	17.6	0.68	3.7	4	HG
8F11EU	17.5	0.31	3.1	15.9	-0.26	3.2	4	HG
8M8WJ9	16.0	-0.24	3.5	17.0	0.34	4.4	3	GA
AHC7NT	22.6	2.13 *	0.8	20.1	1.97	4.4	4	LW
CDMP4L	13.8	-1.06	1.3	18.7	1.24	2.9	4	LP
EQ7HEK	22.3	2.04 *	3.1	18.4	1.11	2.6	4	LA
G4RQVA	16.0	-0.26	2.0	15.7	-0.35	2.5	4	GG
GJCTYK	16.7	0.02	2.3	15.7	-0.35	2.7	3	TL
MB6AKQ	16.3	-0.15	2.7	17.2	0.46	2.4	3	XX
MFB3H1	12.3	-1.59	1.6	14.0	-1.25	3.1	4	XX
MVTW3S	15.2	-0.54	4.2	13.6	-1.46	3.9	2	TL
R5GA5J	16.8	0.03	2.3	17.2	0.46	2.9	4	XX
URRG52	20.8	1.50	1.9	19.2	1.52	1.3	3	XX
XGVLTA	16.4	-0.09	3.7	15.3	-0.54	3.4	4	XX
Z7J6Z8	15.7	-0.37	4.4	15.3	-0.54	4.4	4	LA

Consensus (All Labs) Results

Month Mean	16.67	Grand Mean	16.35
Avg SDr	2.94	Avg SDr	3.17
SD btwn Labs	2.76	SD btwn Labs	1.89
Labs Incd	19	Labs Incd	19

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

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

(LA) - L & W Autoline

(LW) - L & W Gurley Densometer, Oil Flotation

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

(GG) - Gurley Precision #4320 Densometer

(HG) - Technidyne - Hagerty Model #1

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

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



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	
2AY2A4	58.1 H	57.3	58.6	54.9 X	57.2	-2.35*	4.2	1.6	61.2	-0.95	4.1	5.4 H	8	LC
2DJFR4	67.8	68.3	67.8*	67.5*	67.8	2.13*	3.1	0.4	66.8	1.92	3.1	1.6	16	EM
3RV6GB	61.5	63.6	61.0	58.6	61.2	-0.68	2.3	2.1	60.5	-1.30	2.8	1.4	16	LZ
4H1B3C	64.1	64.1	64.0	64.3	64.1	0.56	2.8	0.1 L	63.7	0.33	3.4	1.5	16	LC
5CQ49T	61.8	65.3 H	No Data	64.0 H	63.7	0.38	4.9	1.7	66.2	1.61	4.1	2.2	14	LC
5F8PZP	63.7	63.2	62.1	61.8	62.7	-0.04	3.0	0.9	63.3	0.10	3.1	1.3	16	LC
63NDGC	62.7	61.5	60.0	60.7	61.2	-0.67	2.6	1.2	60.9	-1.11	2.8	1.0	16	LX
7PX5RQ	68.3*	69.4*	66.1	69.9 X	68.4	2.38*	3.5	1.7	67.4	2.21*	3.8	1.7	16	LZ
8JM5H5	59.5	59.5	60.0	60.7	59.9	-1.22	2.1	0.6	61.2	-0.96	2.4	1.2	12	LC
92HUU5	63.2	62.6	62.9	62.1	62.7	-0.04	2.5	0.5	63.5	0.20	3.0	1.8	16	LC
9F35M2	65.6	61.7	63.7	62.3	63.3	0.22	3.0	1.8	61.9	-0.61	2.7	2.0	15	LC
AG7LBE	61.5	59.9	60.5	59.1	60.3	-1.08	3.3	1.0	59.9	-1.60	3.0	1.5	12	LC
AT45TB	No Data	58.0	60.7	57.1*	58.6	-1.77	3.9	1.8	61.1	-0.99	3.2	2.4	8	LC
AVA5VR	63.5	62.1	61.7	62.1	62.4	-0.19	2.7	0.8	62.0	-0.56	2.7	1.3	16	TB
B74CDY	60.9	60.9	62.7	62.1	61.7	-0.49	3.4	0.9	62.6	-0.23	3.2	2.3	5	LD
BLTJZN	58.9	58.9	60.9	61.3	60.0	-1.19	2.6	1.3	60.7	-1.21	3.2	1.8	16	MB
BS2BDX	No Data	62.3	63.3	61.8	62.5	-0.14	2.4	0.8	62.5	-0.29	2.7	0.9	14	LC
BSW1EF	65.1	65.1	59.8	64.4	63.6	0.34	3.7	2.6	62.3	-0.38	3.3	1.8	16	LD
BVGAN1	62.0	60.2	62.1	60.0	61.0	-0.75	4.0	1.1	63.8	0.38	4.0	3.6 H	12	LX
CB9WTY	63.8	63.0	63.3	63.9	63.5	0.29	2.8	0.4	63.5	0.22	2.8	1.0	16	LC
CRK2ZK	62.0	62.4	61.1	59.5	61.2	-0.67	2.0	1.3	63.5	0.22	2.9	2.2	16	LC
D7LU15	63.2	64.0	63.6	63.3	63.5	0.30	2.3	0.4	63.6	0.25	2.2	1.0	16	LC
DHEBCZ	62.8	63.4	61.8	62.9	62.7	-0.03	3.1	0.7	63.8	0.35	2.7	1.0	16	LD
F1KX2J	67.6	66.0 H	63.5	63.5	65.2	0.99	4.8	2.0	65.2	1.06	4.8	2.0	4	LC
F1WADN	60.0	55.5* H	61.5	61.0	59.5	-1.39	4.9	2.7	61.4	-0.87	4.2	2.2	16	LC
FY8VMT	67.3	64.5	No Data	63.7	65.2	1.01	3.1	1.9	66.0	1.49	3.7	2.8	14	LZ
GJBKT1	66.5 L	66.0	65.6	65.0	65.8	1.25	2.7	0.6	66.1	1.55	2.2	1.1	16	LD
GL1T1F	64.2	61.7	62.4	63.5 H	63.0	0.06	4.1	1.1	59.8	-1.67	4.0	2.9	16	MB
H78PRW	59.5	60.2	60.5	62.1	60.6	-0.94	3.5	1.1	63.0	-0.05	3.1	3.3	13	TM
JK41C1	No Data	63.1	60.9	62.9	62.3	-0.20	2.6	1.2	61.7	-0.71	2.3	2.3	12	LC
KEGFAY	66.8 H	69.4*	66.3	65.6	67.0	1.78	4.7	1.7	62.2	-0.42	3.6	4.3 H	15	LC
MQAWF6	62.4	61.8	62.0 L	63.7	62.5	-0.14	2.2	0.8	61.8	-0.64	2.3	1.2	16	LC
NF28T6	60.2	65.6	61.1 L	61.7	62.2	-0.27	2.2	2.4	63.1	0.01	2.7	1.6	16	XX
NFAFRE	62.9	63.8	65.4	61.6	63.4	0.25	2.8	1.6	63.2	0.08	2.9	1.8	16	LC

Containerboard Interlaboratory Testing Program
 Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM71
 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
PV2NV7	61.5	61.0	61.4	60.3	61.1	-0.74	2.6	0.6	61.9	-0.60	3.0	2.9	16	LC
QB3GYE	61.1	62.2	61.9	62.6	61.9	-0.37	2.7	0.6	61.9	-0.61	2.8	1.1	14	TD
QTTZ2M	60.7	59.4	61.0	63.6	61.2	-0.69	2.6	1.8	61.6	-0.73	2.2	1.0	16	LC
RAGZ14	63.3	61.0	No Data	No Data	62.1	-0.28	2.4	1.6	62.2	-0.46	2.7	1.6	7	MB
RB545Q	63.4	65.2	62.9	66.7*	64.6	0.74	3.2	1.7	66.6	1.81	3.9	1.8	16	LD
S4Q8VU	62.5	66.1	71.9 X	63.4	66.0	1.34	3.9	4.2 H	65.8	1.41	3.6	3.1	16	LZ
SWF4JA	61.6	60.6	64.2	63.5	62.5	-0.14	4.0	1.6	63.8	0.37	3.7	1.6	16	LC
T9Q64D	61.2	61.0	63.4	62.2	62.0	-0.36	3.1	1.1	65.2	1.11	3.8	2.4	16	LZ
THJ4MS	61.4	62.8	63.3	61.7 L	62.3	-0.21	2.2	0.9	61.2	-0.94	2.1	1.2	16	TM
UXKDK6	69.9*	65.1	69.8 X	62.9	66.9	1.72	3.3	3.5 H	66.9	1.96	2.9	2.1	15	LC
VKZPAD	71.0 X	65.9	66.1	65.8	67.2	1.85	3.3	2.5	63.3	0.12	3.1	2.9	16	LC
XLNUVW	62.2	63.0	60.9	61.0	61.8	-0.43	3.1	1.0	62.2	-0.43	3.2	2.1	16	TD
YPQWSC	62.6	63.3	62.4	62.1	62.6	-0.09	2.3	0.5	62.2	-0.43	2.1	1.2	16	TA

Consensus (All Labs) Results											
Wk Mean	63.00	62.78	62.48	62.49	Month Mean	62.81				Grand Mean	63.07
Avg SDr	3.31	3.38	3.18	2.89	Avg SDr	3.21				Avg SDr	3.17
SD btwn Labs	2.65	2.91	2.01	2.05	SD btwn Labs	2.37				SD btwn Labs	1.96
Labs Includ	43	47	42	44	SD btwn Wks	1.60				SD btwn Wks	2.18
Labs Exclud	1	0	2	2	Labs Includ	47				Labs Includ	47
Labs not rcvd	3	0	3	1							

Instrument Code List as Reported by the Labs

- | | |
|---|--|
| (EM) - Emerson 1200 Series | (LC) - L & W Crush Tester 48 |
| (LD) - L&W Crush Tester 248 | (LX) - L & W 506 |
| (LZ) - L & W Crush Tester (model not specified) | (MB) - Messmer Buchel K440 |
| (TA) - Thwing-Albert Model QC II-XDS | (TB) - TMI Monitor/Compression Tester, 17-70 |
| (TD) - TMI Digital Crush Tester, Model 17-09 | (TM) - TMI/Hinde & Dauch |
| (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
2QAPC6	71.3	68.9	68.0	66.0	68.6	-1.63	2.8	2.2	70.6	-1.22	3.1	2.8	16	LZ
47FKAP	66.9*	66.8*	67.4	69.9	67.8	-1.86	3.1	1.5	72.6	-0.59	2.2	4.4 H	16	XX
4MGPZU	79.5	78.9	79.5	77.6	78.9	1.29	2.6	0.9	79.0	1.42	3.0	1.9	16	MB
83FLME	No Data	75.7	71.0 H	68.0 H	71.6	-0.77	5.1	3.9 H	71.8	-0.82	4.1	3.3	9	LC
8NWMDM	72.1	70.8	70.1	71.8	71.2	-0.88	2.3	0.9	70.8	-1.16	2.5	0.9	16	XX
9VBP9F	73.3	75.7	77.6	75.6	75.6	0.35	2.6	1.8	75.6	0.34	2.6	1.8	4	LC
AB42G1	75.7	76.2	76.2	77.3	76.3	0.58	3.0	0.7	75.8	0.43	2.9	1.2	5	LD
FBJVMX	77.0	78.3	77.7	77.5	77.6	0.94	2.5	0.5	77.1	0.81	2.3	1.0	16	LD
J5WBL1	72.8	73.1	73.6 L	72.3 L	73.0	-0.38	1.7	0.6	72.5	-0.62	1.7	0.9	16	LC
J85DTJ	78.4	78.4	76.7	77.3	77.7	0.95	3.1	0.8	77.4	0.92	3.3	3.3	16	TB
KEE4G4	75.7	77.3	74.5	75.2	75.7	0.39	2.8	1.2	76.7	0.69	2.8	2.2	16	LZ
RPUFN7	74.5	72.6	No Data	70.7	72.6	-0.48	3.0	1.9	71.2	-1.03	3.0	2.6	14	XX
RRV32R	70.9	68.5	68.6	69.1	69.3	-1.43	2.7	1.1	69.9	-1.41	2.3	0.9	16	LD
S32U56	75.2	74.9	76.4	74.1	75.2	0.24	2.7	1.0	76.1	0.51	2.9	1.3	16	LC
SNLD12	78.3	79.7	78.7	78.2	78.7	1.25	2.1	0.7	77.9	1.07	2.5	1.0	16	LC
SP17U4	78.2	78.5	77.1	79.3	78.3	1.12	2.8	0.9	79.1	1.44	2.8	1.4	16	XX
VLVRBG	76.1	77.2	77.2	79.6	77.5	0.91	2.5	1.5	77.4	0.92	2.7	2.0	15	LZ
VWVLRU	72.1	71.9 L	72.6 L	72.1 L	72.2	-0.60	1.6	0.3	69.9	-1.41	1.7	1.6	16	XX
VZRYAS	74.0	74.1	74.8	74.5	74.3	0.01	2.3	0.4	73.5	-0.29	2.4	1.4	16	TD

Consensus (All Labs) Results

Wk Mean	74.55	74.61	74.32	73.99	Month Mean	74.31	Grand Mean	74.47
Avg SDr	2.72	2.83	2.70	2.71	Avg SDr	2.79	Avg SDr	2.73
SD btwn Labs	3.23	3.84	3.83	4.02	SD btwn Labs	3.53	SD btwn Labs	3.20
Labs Includ	18	19	18	19	SD btwn Wks	1.44	SD btwn Wks	2.12
Labs Exclud	0	0	0	0	Labs Includ	19	Labs Includ	19
Labs not rcvd	1	0	1	0				

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

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

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

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

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

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

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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
4MYV7W	40.6	39.7	40.3 H	42.0 H	40.6	-0.29	3.3	1.0	41.5	-0.08	3.3	1.0	16	LC
5GZDZQ	40.6	40.3 L	41.3	40.1 L	40.6	-0.31	1.0	0.5	40.6	-0.57	1.0	0.5	4	LC
64HRVA	41.4	42.1	No Data	No Data	41.8	0.28	3.1	0.5	41.0	-0.37	3.0	1.0	6	EM
64ZH4U	38.7	39.3 H	No Data	43.4	40.5	-0.36	3.0	2.5	41.1	-0.32	2.9	3.3 H	14	LC
6JM479	40.1	40.6	42.6	41.7	41.2	0.02	1.5	1.1	42.0	0.14	1.8	0.9	16	TD
8RJ15G	37.5	39.6	38.9	39.1	38.7	-1.21	2.5	0.9	41.9	0.09	2.7	3.3 H	12	LC
95TQG4	35.2* H	37.2	37.0 H	37.5	36.7	-2.21*	3.2	1.1	37.2	-2.24*	3.2	1.9	12	LX
APUA8V	46.7*	42.5	45.7	44.2	44.8	1.77	2.6	1.8	45.4	1.83	2.6	2.0	8	LZ
AYWV93	41.0	38.8 L	40.7	41.4	40.5	-0.34	1.4	1.1	41.3	-0.22	1.9	1.0	12	LC
B6G5HQ	40.1	39.5	38.7	39.0	39.3	-0.93	1.4	0.6	40.8	-0.46	1.6	1.2	16	EN
DGXWMJ	44.0	43.8	43.5	43.3	43.6	1.22	2.5	0.3	45.3	1.80	2.5	2.1	16	MZ
FVJ8RB	42.4	43.2	41.8	41.8	42.3	0.55	2.2	0.7	43.3	0.80	2.6	1.5	16	LZ
H4CZMW	41.0	44.1	44.4	38.4	42.0	0.39	1.8	2.9 H	41.9	0.07	2.0	2.1	16	TB
KVXMAJ	42.4	41.9	43.1	43.2	42.7	0.73	1.9	0.6	42.8	0.57	1.9	1.1	16	LC
MZ3CY9	41.7	40.9	42.7	40.6	41.5	0.13	2.1	1.0	41.5	-0.09	2.0	1.0	16	LC
NQYULQ	39.2	39.7	39.5	38.7	39.3	-0.95	1.4	0.4	40.5	-0.63	2.1	0.9	16	LD
PBSM5E	44.2	40.4	38.8	40.0	40.8	-0.17	3.0	2.3	42.1	0.19	2.7	1.8	16	TB
QXZALV	37.9	39.3	38.8	38.3	38.6	-1.30	1.2	0.6	37.4	-2.17*	1.8	2.3	12	WK
RXAXNM	39.8	40.7	45.3	42.0	42.0	0.38	2.0	2.4	42.3	0.28	2.2	1.8	16	MB
V82CU8	44.5	43.7	46.0	44.9	44.8	1.77	1.7	1.0	42.2	0.25	3.2	3.3 H	16	LC
W3QPWX	43.9	41.8	42.5	43.6	42.9	0.87	2.5	1.0	43.9	1.12	2.8	0.9	16	LC

Consensus (All Labs) Results													
Wk Mean	41.08	40.91	41.65	41.15	Month Mean	41.19				Grand Mean	41.71		
Avg SDr	2.28	2.21	2.21	2.19	Avg SDr	2.26				Avg SDr	2.45		
SD btwn Labs	2.68	1.85	2.65	2.20	SD btwn Labs	2.02				SD btwn Labs	1.99		
Labs Includ	21	21	19	20	SD btwn Wks	1.37				SD btwn Wks	1.86		
Labs Exclud	0	0	0	0	Labs Includ	21				Labs Includ	21		
Labs not rcvd	0	0	2	1									

Containerboard Interlaboratory Testing Program
Analysis 255

Ring Crush (RCT), 26 lb Corrugating Medium - CM71
TAPPI Official Test Method T822



Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LC) - L & W Crush Tester 48

(LX) - L & W 506

(MB) - Messmer Buchel K440

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

(WK) - Zwick Z005 Crush Tester

(EN) - Emerson 2200 Series

(LD) - L&W Crush Tester 248

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

(MZ) - Messmer Buchel (model not specified)

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



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
3SC439	14.3	13.9	14.5	14.0	14.2	-0.96	1.0	0.3	14.6	-0.44	1.0	0.4	16	LW
DG8PF8	15.8 X	15.0	No Data	No Data	15.4	2.17*	1.1	0.5	15.2	1.09	1.1	0.4	7	BK
F2FG56	No Data	14.5	14.9	14.5	14.7	0.22	1.0	0.2	14.6	-0.63	1.1	0.3	13	LW
FDPEGZ	14.2	14.2	14.4	13.8	14.2	-0.97	1.1	0.2	14.4	-1.04	1.2	0.3	16	LU
JCHLDR	14.7	No Data	15.2	12.4*	14.1	-1.06	1.1	1.5 H	14.5	-0.82	1.1	0.7	14	LW
RDSN6N	14.7	13.9	14.5	15.7	14.7	0.33	0.9	0.8	14.7	-0.28	0.9	0.8	4	LZ
RXMR1P	14.6	14.4	14.4	14.6	14.5	-0.18	1.1	0.1	14.6	-0.62	1.2	0.3	16	XX
TNAB7L	15.0	14.7	14.6	14.3	14.6	0.16	1.3	0.3	14.8	-0.10	1.2	0.3	16	XX
V7RDZZ	14.9	14.9	15.0	14.0	14.7	0.28	1.0	0.5	15.0	0.72	1.1	0.4	16	LU
WBPNPC	14.5 L	25.4 X	25.5 X	14.5	20.0	13.67 X	1.3	6.3 H	15.5	2.12*	1.2	3.9 H	16	LW

Consensus (All Labs) Results												
Wk Mean	14.61	14.44	14.69	14.21	Month Mean	14.56				Grand Mean	14.79	
Avg SDr	1.04	1.08	1.07	0.95	Avg SDr	1.06				Avg SDr	1.12	
SD btwn Labs	0.25	0.42	0.32	0.86	SD btwn Labs	0.40				SD btwn Labs	0.35	
Labs Includ	8	8	8	9	SD btwn Wks	0.63				SD btwn Wks	1.31	
Labs Exclud	1	1	1	0	Labs Includ	9				Labs Includ	10	
Labs not rcvd	1	1	1	1								

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)

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

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