



Collaborative Testing Services, Inc.
Containerboard Interlaboratory Testing Program

Participant Summary Report #555 (N) - December 2015

[Introduction to the Containerboard Program](#)

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

Analysis	Sample Lot	Analysis Name
<u>201</u>	<u>BOX9</u>	<u>Box Compression Strength, Corrugated Boxes</u>
<u>202</u>	<u>ECT8</u>	<u>Edgewise Compressive Strength, Wax (T811), Corrugated board</u>
<u>203</u>	<u>ECT8</u>	<u>Edgewise Compressive Strength by Clamp (T839), Corrugated board</u>
<u>205</u>	<u>42D1</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>207</u>	<u>36Z3</u>	<u>Mullen Burst of Linerboard, 36 lb Linerboard</u>
<u>215</u>	<u>42D1</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>217</u>	<u>36Z3</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 36 lb Linerboard</u>
<u>223</u>	<u>42D1</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>225</u>	<u>36Z3</u>	<u>STFI of Linerboard, 36 lb Linerboard</u>
<u>228</u>	<u>69C</u>	<u>Roughness - Stylus Method, 69 lb Linerboard</u>
<u>231</u>	<u>36Z</u>	<u>Internal Bond Strength, Linerboard, 36 lb Linerboard</u>
<u>234</u>	<u>36Z</u>	<u>Coefficient of Static Friction - Inclined Plane, 36 lb Linerboard</u>
<u>237</u>	<u>36Z</u>	<u>Air Resistance - Gurley Method, Linerboard, 36 lb Linerboard</u>
<u>240</u>	<u>CM81</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM81</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM81</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM81</u>	<u>STFI of Medium, 26 lb Corrugating Medium</u>

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	36Z2	December 2012 - November 2014
	36Z3	December 2014 - Current
42# Linerboard	42B4	June 2014 - April 2015
	42D1	May 2015 - Current
69# Linerboard	69A2	February 2013 - November 2013
	69C,C1	December 2013 - Current
26# Corrugating Medium	CM73	January 2013 - September 2015
	CM81	October 2015 - Current

ABOUT CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 80 countries, currently participate in the CTS programs.

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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 cycle 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 Includ - The number of laboratory Means included in the Wk Mean for that week.
- Labs Exclud - 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 CPV - For each laboratory, the average of all the weekly Means reported for this month.
- **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 Wk - 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 btwn Group - For the current month, the standard deviation of the laboratory Means within the group about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD btwn Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks) for all

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 Wk	- 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.
Inst	- The two letter instrument code. Codes are summarized at the bottom of the last analysis page.

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 btwn Wks	- For the cumulative period, the average of the laboratory between week standard deviations for all the participants.

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>
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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 recommended. |
| * | 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). |

Containerboard Interlaboratory Testing Program
Analysis 201

Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9

TAPPI Official Test Method T804



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2MUJC6	750.8	-1.30	35.2	741.9	-1.41	74.3	4	LG
6TT6RX	883.0	0.49	96.5	825.1	-0.16	66.6	4	LS
7GUTWV	784.4	-0.85	60.7	820.5	-0.23	44.5	3	EX
7JWNFY	851.1	0.05	22.1	854.9	0.28	52.0	4	ER
7K9NCT	809.4	-0.51	33.6	822.9	-0.20	54.8	4	EX
9BHM83	907.2	0.81	52.5	840.0	0.06	47.6	4	LM
BF2N3X	905.2	0.79	41.7	804.7	-0.47	42.8	4	ER
DBYE2U	864.2	0.23	53.5	856.7	0.31	70.3	4	LH
EN3AJM	920.0	0.99	43.4	915.8	1.19	38.5	4	LH
G4Q8XN	865.1	0.24	17.6	874.9	0.58	66.1	4	LM
GDVEDM	952.6	1.43	14.2	935.6	1.49	22.7	4	ER
GJH6ZH	839.7	-0.10	38.8	857.1	0.32	55.4	4	ER
H3DXKG	964.0	1.58	19.5	958.0	1.83	56.1	4	EX
JWZH7P	763.2	-1.14	14.1	817.3	-0.28	59.1	4	LL
MABFML	739.4	-1.46	69.1	764.5	-1.07	42.8	4	ER
MRAHFJ	865.6	0.25	49.8	850.8	0.22	48.1	2	ET
MVE2MR	817.2	-0.41	40.7	810.2	-0.39	67.6	3	LG
NHHJ3J	929.1	1.11	52.6	887.7	0.77	48.5	3	LG
TABBNE	941.6	1.28	27.7	903.4	1.01	36.1	4	TB
V4Y8QB	799.6	-0.64	37.0	739.6	-1.44	66.8	4	LS
VUB8JD	769.4	-1.05	89.2	837.8	0.03	73.2	4	ES
YDYRQ9	715.8	-1.78	29.9	673.1	-2.44 *	30.4	3	LL

Consensus (All Labs) Results					
Month Mean	847.16	Grand Mean	836.02		
Avg SDr	47.83	Avg SDr	54.74		
SD btwn Labs	73.93	SD btwn Labs	66.79		
Labs Incd	22	Labs Incd	22		

Consensus By Method

Test Method	Group Mean	SD btwn Group	Difference from Grand Mean	Labs Included
Hot melt adhesive sealing	877.63	73.01	30.47	5
Clip sealing	822.92	64.05	24.24	15
Tape sealing	952.80	15.84	105.64	2

Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX9
TAPPI Official Test Method T804



Instrument Code List as Reported by the Labs

(ER) - Emerson 6200 Series

(ET) - Emerson 7200

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

(LL) - Lansmont 76-5K

(LS) - Lansmont Squeezer

(ES) - Emerson 8510

(EX) - Emerson Apparatus (Model not specified)

(LH) - L.A.B. Compression Tester Model #10610

(LM) - Lansmont 122-15k

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

Containerboard Interlaboratory Testing Program
 Analysis 202
Edgewise Compressive Strength, by T811, Corrugated board - ECT8
 TAPPI T811



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
6GAZAZ	59.3	0.34	2.0	56.6	-0.35	2.5	4	XX
6TT6RX	58.4	0.06	1.3	57.7	-0.01	2.2	4	LC
EN3AJM	52.5	-1.70	2.0	54.0	-1.10	2.5	4	TC
FX4XBK	59.1	0.28	1.4	58.1	0.09	1.2	4	WK
GJH6ZH	59.6	0.42	1.8	59.6	0.53	1.8	4	EN
MVE2MR	56.7	-0.44	4.4	58.1	0.11	3.9	3	WK
RZ9P8F	58.4	0.07	1.2	59.2	0.42	1.7	3	TB
V4Y8QB	56.8	-0.42	3.3	53.2	-1.34	2.1	4	EM
XU89DB	55.5	-0.80	2.7	55.7	-0.61	2.5	4	LC
YDYRQ9	65.4	2.17 *	1.6	65.4	2.24 *	1.6	1	LC

Consensus (All Labs) Results

Month Mean	58.16	Grand Mean	57.74
Avg SDr	2.39	Avg SDr	2.32
SD btwn Labs	3.31	SD btwn Labs	3.39
Labs Incl	10	Labs Incl	10

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(EN) - Emerson 2200

(LC) - L&W Crush Tester 48

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

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

(WK) - Zwick Z005 Crush Tester

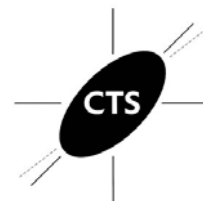
(XX) - Instrument make/model not specified by lab

Containerboard Interlaboratory Testing Program
Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
TAPPI T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
2D8HTA	61.9	0.22	1.7	60.9	0.16	2.7	4	LD
4AXC7Y	66.0	1.18	2.9	62.0	0.52	2.5	4	LC
4QPA9U	59.1	-0.43	1.9	58.3	-0.78	2.0	4	EX
6TT6RX	61.7	0.17	3.3	61.2	0.25	2.4	4	LC
7JWNFY	60.4	-0.14	2.0	59.4	-0.38	1.9	4	TB
7K9NCT	63.6	0.62	1.5	63.1	0.93	2.0	4	TL
8KRRKT	54.7	-1.49	1.8	58.5	-0.71	2.0	3	TK
9BHM83	61.8	0.21	2.6	61.6	0.39	2.0	4	EM
9CC8ZU	53.3	-1.83	2.4	55.6	-1.74	2.5	4	LD
AF7NQT	49.9	-2.62 *	1.6	54.2	-2.25 *	1.9	4	TD
APTMGX	59.8	-0.28	1.9	58.9	-0.56	2.0	4	TM
BF2N3X	59.4	-0.36	3.0	59.5	-0.36	2.8	4	EN
DBYE2U	68.2	1.71	2.3	65.0	1.62	3.4	4	EM
E74XBL	64.8	0.92	1.6	62.8	0.83	1.9	4	LC
EETVQU	60.0	-0.24	1.8	61.1	0.20	1.5	4	LC
EN3AJM	62.2	0.30	1.7	63.1	0.92	1.4	4	TC
G4Q8XN	64.7	0.89	1.7	60.8	0.12	1.7	4	TG
GDVEDM	57.6	-0.80	1.7	56.8	-1.31	1.6	4	EM
GJH6ZH	61.2	0.06	2.5	61.2	0.24	1.9	4	EN
H3DXKG	69.0	1.91	1.4	64.1	1.30	1.9	4	CT
JWZH7P	59.9	-0.25	1.2	58.0	-0.87	1.6	4	BU
M2Y4LH	62.4	0.34	2.0	62.2	0.60	2.1	4	LD
MABFML	61.4	0.09	1.8	61.6	0.39	3.0	4	LD
MH9VNM	58.1	-0.68	2.1	58.0	-0.90	1.9	4	TB
MRAHFJ	66.0	1.21	2.0	66.4	2.10 *	2.8	2	TD
MVE2MR	63.4	0.59	2.0	63.1	0.92	2.7	3	WK
NHHJ3J	60.2	-0.19	3.1	59.2	-0.45	2.7	4	EM
NYUTDK	61.9	0.22	1.2	62.3	0.64	2.5	4	LD
PRRYUD	53.8	-1.71	2.2	55.8	-1.68	1.7	4	TG
RZ9P8F	60.5	-0.11	1.5	59.9	-0.22	1.6	3	TG
TABBNE	66.7	1.36	0.6	62.0	0.55	1.1	4	LC
V4Y8QB	62.6	0.39	3.5	60.4	-0.04	2.3	4	EM
VHKD96	53.1	-1.87	5.7	55.5	-1.76	3.9	3	LC
VUB8JD	63.2	0.52	1.4	62.6	0.75	2.4	4	LD
XU89DB	61.7	0.18	1.3	62.2	0.60	1.5	4	LC
Z43BEA	60.6	-0.10	2.5	74.2	4.88 X	3.8	4	LC

Containerboard Interlaboratory Testing Program
 Analysis 203
Edgewise Compressive Strength by T839, Corrugated board - ECT8
 TAPPI T839



Consensus (All Labs) Results

Month Mean	60.96	Grand Mean	60.49
Avg SDR	2.27	Avg SDR	2.24
SD btwn Labs	4.21	SD btwn Labs	2.81
Labs Incd	36	Labs Incd	35

Instrument Code List as Reported by the Labs

(BU) - Buchel Digital Crush Tester	(CT) - Con-Ten
(EM) - Emerson 1200 Series	(EN) - Emerson 2200
(EX) - Emerson (model not specified)	(LC) - L&W Crush Tester 48
(LD) - L&W Crush Tester 248	(TB) - TMI Monitor/Compression Tester, Model 17-70
(TC) - TMI Monitor/Compression Tester, Model 17-37	(TD) - TMI Digital Crush Tester, Model 17-09
(TG) - TMI Digital Crush Tester, 17-76	(TK) - TLS Compression Tester, Model 5184
(TL) - Tech-Lab Systems Compression	(TM) - TMI/Hinde & Dausch
(WK) - Zwick Z005 Crush Tester	

Containerboard Interlaboratory Testing Program
 Analysis 205
 Bursting Strength (Mullen), 42 lb Linerboard - 42D1
 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 Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	111.6	108.3	110.0	104.1	108.5	-0.36	10.8	3.3	109.5	0.08	9.9	2.7	16	LB
2D8HTA	104.5	106.4	105.7	104.0	105.2	-1.30	8.6	1.1	104.7	-1.46	7.6	2.0	16	LA
2MUJC6	107.0	108.2	101.3 *	104.4	105.2	-1.29	12.4	3.1	108.3	-0.29	10.8	4.3	11	AH
2R4WT4	106.3	96.5 X	110.0	107.1	105.0	-1.36	10.5	5.9	106.9	-0.76	9.5	5.2	9	LA
2UBERY	109.6	109.5 L	109.5 L	109.6	109.5	-0.06	5.2	0.0 L	109.2	-0.02	6.4	0.3 L	16	LJ
3CPXD6	111.0	113.9	113.6	116.4	113.7	1.14	9.3	2.2	112.0	0.88	11.0	2.9	16	TP
3JQ9TA	107.5 L	108.3 L	107.6 L	106.9 L	107.6	-0.62	3.0	0.6 L	107.5	-0.55	7.4	0.9	16	LA
3TVF9A	112.9	119.7 *	110.4	105.6	112.1	0.69	12.9	5.9	109.1	-0.03	12.7	4.2	12	LZ
4AXC7Y	108.0	104.4	110.9	103.5	106.7	-0.87	10.6	3.4	109.3	0.03	11.2	3.6	16	LA
4QLPH7	109.1	106.4	103.9	111.0	107.6	-0.61	10.8	3.1	110.7	0.48	25.5	7.9 H	16	LC
623WUZ	102.3	107.3	108.1	110.2 L	107.0	-0.78	11.0	3.3	107.6	-0.53	10.9	3.6	15	LC
6TT6RX	106.6	102.8	104.8	112.1	106.6	-0.90	8.7	4.0	105.7	-1.13	9.1	2.9	16	AH
793D67	105.5	103.2	101.6 *	107.7	104.5	-1.49	7.5	2.7	107.7	-0.49	8.2	4.9	16	TB
7H27EW	112.8 L	107.4 L	111.9 L	109.6	110.4	0.20	4.4	2.4	109.7	0.15	4.8	2.5	12	LA
7JWNFY	108.2	113.0	108.7	109.1	109.8	0.01	12.0	2.2	107.9	-0.44	11.8	2.7	16	LA
7UJQXT	101.9	109.0	110.9	108.3	107.5	-0.63	10.6	3.9	103.8	-1.74	11.3	3.2	16	XX
86CTD8	114.5	114.6	112.6	110.3	113.0	0.93	10.7	2.0	108.6	-0.20	11.0	3.7	16	LA
8A7P3X	106.3	110.8	108.0	109.0	108.5	-0.35	12.0	1.9	107.6	-0.53	10.9	6.7 H	16	AH
8JD3J2	107.2	100.0 *	106.3	101.9	103.9	-1.68	8.9	3.5	104.7	-1.46	10.1	3.2	15	AH
8KMALU	119.5 *	111.4	107.4	113.8	113.0	0.94	8.2	5.1	113.2	1.27	14.3	4.4	16	LC
8Z2HMX	116.0	108.5	106.5	110.7	110.4	0.20	10.8	4.1	111.2	0.62	11.2	3.1	16	LZ
9BHM83	108.7	106.6	109.1	108.3	108.2	-0.44	12.6	1.1	107.0	-0.71	10.8	1.9	16	AH
9BVB9U	112.5	112.4	113.9	107.0	111.4	0.48	10.4	3.0	111.0	0.57	11.4	2.3	16	LA
9CC8ZU	115.4	112.5	110.7	114.3	113.2	0.99	8.6	2.1	112.3	0.99	9.4	2.9	16	AA
ANFZWY	104.2	104.9	109.5	105.7	106.1	-1.04	8.9	2.4	105.3	-1.28	8.3	6.0	16	AX
BGX86Y	114.2	114.1	112.8	112.1	113.3	1.01	11.0	1.0	111.0	0.58	12.0	2.5	16	TB
CXZ44N	104.4	106.9	114.7	110.5	109.1	-0.17	11.7	4.5	110.2	0.30	11.9	4.3	16	LJ
E68QJU	108.8	108.4 L	107.8	109.2	108.6	-0.34	7.5	0.6	108.8	-0.15	8.4	2.3	16	AH
EN3AJM	112.3	110.5	105.8	115.5	111.0	0.36	11.4	4.1	113.4	1.34	12.4	3.1	16	AA
F8UJGH	112.0 L	111.8 L	110.0 L	111.1	111.2	0.42	4.1	0.9	109.8	0.19	9.5	2.8	16	XX
H3DXKG	120.4 *	116.7	117.6 *	112.4 H	116.8	2.01 *	13.6	3.3	113.5	1.36	15.3	3.4	16	XX
J44FZM	106.5	109.4	113.0	111.4	110.1	0.10	9.2	2.8	109.3	0.01	11.1	2.1	16	LA
JCVXEV	116.7	117.7	114.3	116.4	116.3	1.86	10.0	1.4	113.9	1.49	10.3	3.0	12	LC
JLLGUP	106.1	105.3	106.0	101.2 *	104.6	-1.46	10.7	2.3	104.9	-1.40	11.0	3.7	16	LC
M4A4QP	110.6	119.8 *	109.4	117.3	114.3	1.29	12.8	5.1	109.7	0.16	12.1	7.7 H	16	LA

Containerboard Interlaboratory Testing Program
 Analysis 205
 Bursting Strength (Mullen), 42 lb Linerboard - 42D1
 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 Wks	Mean	CPV	SDr	SD Wks	Wks		
M94XNQ	125.6 ^{XH}	118.3	110.7	113.1	116.9	2.05	* 11.6	6.6	116.7	2.41	* 9.7	3.9	16	LA	
MABFML	105.8	110.7	111.0	114.0	110.4	0.18	9.1	3.4	112.4	1.03	11.3	3.6	16	AH	
MUHLCF	113.6	113.9	109.4	111.6	112.1	0.68	11.0	2.1	111.7	0.78	11.5	3.2	16	LC	
MVE2MR	115.6	113.7	NO DATA	NO DATA	114.6	1.40	12.3	1.4	114.3	1.62	12.2	2.0	12	LZ	
NT4MAH	98.1 *	116.3	112.0	95.0 X	105.4	-1.25	9.0	10.4 ^H	104.9	-1.38	10.4	6.1	12	LC	
P7PB4G	111.7	115.2	117.6 *	114.9	114.8	1.46	9.9	2.4	114.4	1.67	12.1	2.5	16	LA	
RF2JGK	108.7	106.6	106.3	107.1	107.2	-0.73	10.1	1.1	108.4	-0.26	11.4	2.7	15	TB	
V4Y8QB	113.2	115.8	114.4	114.8 ^H	114.6	1.37	14.8	1.1	103.3	-1.92	10.8	7.2 ^H	16	LA	
VUB8JD	106.7	106.1	108.0	108.3	107.3	-0.70	11.5	1.0	108.0	-0.40	12.4	2.6	16	LA	
VV7PKF	110.7	110.4	109.4	105.7	109.1	-0.20	11.7	2.3	112.7	1.12	10.5	4.4	12	LC	
VXC8JB	105.2	109.0	101.0 *	105.4	105.2	-1.31	11.7	3.3	107.6	-0.52	11.5	3.4	16	LC	
WLXJZC	104.8	102.2	111.6	110.4	107.3	-0.71	6.2	4.5	105.0	-1.36	6.8	3.7	16	RE	
XTR3Z7	106.1	104.0	106.9	105.6	105.7	-1.16	12.1	1.2	107.1	-0.70	11.1	3.0	16	LC	
Z43BEA	111.4	109.8	108.3	111.8	110.3	0.16	11.2	1.6	107.3	-0.62	11.1	3.6	16	LA	
ZNBG46	111.7	112.1	113.2	109.1	111.5	0.51	9.7	1.7	110.6	0.45	12.0	5.2	16	LC	

Consensus (All Labs) Results									
Wk Mean	109.54	110.08	109.46	109.62	Month Mean	109.74	Grand Mean	109.24	
Avg SDr	10.37	10.56	10.07	10.06	Avg SDr	10.34	Avg SDr	11.28	
SD btwn Labs	4.61	4.69	3.76	3.95	SD btwn Labs	3.51	SD btwn Labs	3.11	
Labs Includ	48	49	48	47	SD btwn Wks	3.31	SD btwn Wks	3.90	
Labs Exclud	1	0	0	1	Labs Includ	49	Labs Includ	49	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

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

Containerboard Interlaboratory Testing Program
 Analysis 207
Bursting Strength (Mullen), 36 lb Linerboard - 36Z3
 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 Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	76.9	78.9	76.1	78.1	77.5	-0.40	4.0	1.3	77.5	-0.38	4.1	1.6	12	LB
2D8HTA	77.8	75.9	77.0	74.8	76.4	-0.76	3.7	1.3	75.4	-1.16	3.9	1.4	12	LA
2MUJC6	78.1	79.0	74.3	74.2	76.4	-0.75	5.1	2.5	77.9	-0.22	5.5	2.2	10	AH
2R4WT4	79.5	71.9 *	76.9	77.6	76.4	-0.74	5.3	3.2	74.5	-1.46	5.5	4.8 H	12	LA
2UBERY	78.7	78.6	78.5 L	78.5	78.6	-0.06	3.8	0.1 L	78.6	0.03	4.1	0.1 L	12	LJ
3CPXD6	76.6	76.6	79.0	76.3	77.1	-0.52	3.9	1.3	76.5	-0.76	4.1	1.4	12	TP
3JQ9TA	80.3 L	76.9 L	77.6 L	77.0 L	77.9	-0.27	1.6	1.6	79.1	0.22	3.2	1.8	12	LA
3TVF9A	79.6	78.9	78.3	75.9	78.2	-0.19	4.8	1.6	79.4	0.32	5.0	1.7	8	LZ
4AXC7Y	77.2	78.3 H	76.2	77.8	77.4	-0.45	5.7	0.9	78.4	-0.04	5.8	2.2	12	LA
4QLPH7	80.1	78.8	75.3	77.3	77.9	-0.29	6.5	2.0	79.6	0.40	5.3	2.3	12	LC
623WUZ	83.2	84.0	82.3	80.3	82.5	1.15	5.6	1.6	78.4	-0.03	5.6	3.8	11	LC
6TT6RX	74.8	70.6 *	73.1	73.6	73.0	-1.81	4.6	1.8	74.4	-1.52	4.7	2.0	12	AH
793D67	72.2	77.9	78.3	77.2	76.4	-0.75	5.3	2.8	82.7	1.54	5.1	5.0 H	12	TB
7H2TEW	80.2	80.7	80.8	79.5 L	80.3	0.47	4.5	0.6	79.9	0.50	4.3	1.0	8	LA
7JWNFY	73.6	75.6	76.4	70.9 *H	74.1	-1.47	7.7	2.5	74.9	-1.33	6.2	2.1	12	LA
7UJQXT	71.6	77.8	79.1	75.8	76.1	-0.85	5.0	3.3	73.6	-1.81	5.4	3.6	8	XX
86CTD8	78.4	79.4	80.7	77.5	79.0	0.07	6.3	1.4	78.3	-0.09	5.8	1.3	12	LA
8A7P3X	73.3	78.0	76.2	75.8	75.8	-0.93	5.4	1.9	77.8	-0.26	5.1	2.2	12	AH
8JD3J2	70.5 *	72.1	72.8	69.9 *	71.3	-2.35 *	5.5	1.4	72.4	-2.26 *	6.0	2.6	11	AH
8KMALU	76.1	80.6	79.4 L	79.8	79.0	0.06	4.0	2.0	79.0	0.18	5.4	2.7	12	LC
8Z2HMX	80.1	81.4	80.5	78.4	80.1	0.41	5.1	1.2	78.8	0.10	5.8	1.8	12	LZ
9BHM83	81.6	77.3	78.8	78.0	78.9	0.04	5.3	1.9	78.3	-0.07	4.7	1.7	12	AH
9BVB9U	78.4	77.8	79.3	80.0	78.9	0.03	5.6	0.9	78.1	-0.14	5.3	2.0	12	LA
9CC8ZU	82.7	75.7	81.2	82.2	80.5	0.52	5.1	3.2	81.0	0.93	5.6	2.7	8	AA
ANFZWY	78.8	79.5	78.3	81.8	79.6	0.25	4.8	1.5	79.9	0.51	4.6	2.3	12	AX
BGX86Y	82.9	83.9	81.7 H	79.3	81.9	0.99	6.1	2.0	79.7	0.46	5.5	2.8	8	TB
CXZ44N	77.1	74.6	75.9	76.3	76.0	-0.88	4.1	1.0	76.4	-0.76	4.6	1.0	12	LJ
E68QJU	79.0	79.6	80.2	80.2	79.8	0.30	4.5	0.6	79.6	0.41	4.4	1.3	12	AH
EN3AJM	83.8	83.5	85.5	85.8 *	84.6	1.84	5.3	1.2	82.7	1.54	5.4	2.2	12	AA
F8UJGH	82.6	80.2	83.9	82.9	82.4	1.14	4.6	1.6	82.4	1.45	4.3	1.3	12	XX
H3DXKG	88.2 *	85.3	87.7 *	80.1	85.3	2.06 *	4.5	3.7	75.5	-1.12	6.0	7.7 H	12	XX
J44FZM	79.3	79.4	76.8	78.9	78.6	-0.05	5.1	1.2	78.9	0.13	5.7	1.7	12	LA
JCVXEV	85.1	82.1	84.5	80.8	83.1	1.36	5.1	2.0	82.7	1.53	5.3	1.9	8	LC
JLLGUP	76.3	76.7	78.0	72.0	75.8	-0.95	4.8	2.6	75.1	-1.26	5.5	2.3	12	LC
M4A4QP	81.2	83.3	81.7	79.6	81.5	0.84	6.5	1.5	80.0	0.53	6.0	1.9	12	LA

Containerboard Interlaboratory Testing Program
 Analysis 207
Bursting Strength (Mullen), 36 lb Linerboard - 36Z3
 TAPPI Official Test Method T807



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
M94XNQ	83.3	84.1	79.5	83.2	82.5	1.17	4.2	2.1	82.3	1.42	4.7	2.6	12	LA
MABFML	85.5	81.5	75.9	75.0	79.5	0.22	4.5	4.9 H	80.2	0.62	4.8	2.9	12	AH
MUHLCF	78.5	79.5	81.0	80.6	79.9	0.35	5.9	1.1	79.2	0.27	5.3	1.2	12	LC
MVE2MR	83.7	83.0	NO DATA	NO DATA	83.3	1.43	5.9	0.5	82.7	1.54	5.8	2.3	9	LZ
NT4MAH	73.4	80.4	74.2	72.0	75.0	-1.18	5.2	3.7	75.5	-1.12	5.3	2.9	12	LC
P7PB4G	84.0	81.1	83.7	83.7	83.1	1.36	5.4	1.3	82.3	1.38	6.1	2.3	12	LA
RF2JGK	76.6	73.1	77.3	77.6	76.1	-0.83	5.4	2.1	76.2	-0.87	5.9	1.4	12	TB
V4Y8QB	79.4	77.1	77.2	81.6	78.8	0.01	5.2	2.1	75.8	-1.01	4.8	3.6	8	LA
VUB8JD	76.0	78.6	77.5	77.5	77.4	-0.44	5.1	1.1	78.4	-0.04	5.8	1.7	12	LA
VV7PKF	77.9	72.7	74.1	77.2	75.5	-1.04	5.1	2.5	77.1	-0.52	5.3	2.7	12	LC
VXC8JB	77.2	74.1	75.3	76.3	75.7	-0.96	5.1	1.3	76.6	-0.71	5.0	1.5	12	LC
WLXJZC	79.6	78.8	85.4	84.8	82.2	1.06	5.0	3.4	80.8	0.85	4.2	2.5	12	RE
XTR3Z7	75.7	75.1	73.0	77.7	75.4	-1.07	5.4	1.9	76.2	-0.85	5.4	1.6	12	LC
Z43BEA	80.4	80.2	76.6	78.0	78.8	0.00	5.9	1.8	76.1	-0.88	5.6	3.3	10	LA
ZNBG46	84.9	86.6 *	85.7	85.5 *	85.7	2.16 *	4.3	0.7	84.9	2.36 *	4.0	0.9	12	LC

Consensus (All Labs) Results									
Wk Mean	79.03	78.87	78.78	78.27	Month Mean	78.79	Grand Mean	78.51	
Avg SDr	4.85	5.09	5.03	5.48	Avg SDr	5.13	Avg SDr	5.18	
SD btwn Labs	3.86	3.46	3.59	3.57	SD btwn Labs	3.18	SD btwn Labs	2.71	
Labs Includ	49	49	48	48	SD btwn Wks	2.03	SD btwn Wks	2.51	
Labs Exclud	0	0	0	0	Labs Includ	49	Labs Includ	49	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

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

Containerboard Interlaboratory Testing Program

Analysis 215

Ring Crush, 42 lb Linerboard - 42D1

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 Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	86.9	89.9	88.9	85.9	87.9	0.12	3.8	1.9	88.1	0.32	3.7	2.1	16	LC
2D8HTA	89.0	93.6	90.2	89.1	90.5	0.62	3.9	2.1	89.2	0.60	3.7	1.7	16	LD
2R4WT4	92.0	65.8 XH	90.8	92.3	85.2	-0.41	5.6	13.0 H	89.6	0.69	4.8	9.1 H	9	LC
2UBERY	86.4 H	86.5	86.6	86.3	86.5	-0.17	5.6	0.2 L	87.1	0.05	3.7	1.3	16	LD
3CPXD6	86.5	87.3	86.1	87.7	86.9	-0.08	3.9	0.7	87.5	0.16	3.6	1.8	16	TH
3JQ9TA	84.2 L	84.0	85.2 L	83.9	84.3	-0.59	2.1	0.6	83.8	-0.78	3.0	1.1	16	LD
3TVF9A	77.7	77.8	80.5	79.6	78.9	-1.66	4.3	1.4	79.4	-1.93	4.2	1.8	12	LC
4AXC7Y	86.9	86.2	85.3	91.2	87.4	0.02	4.6	2.6	88.1	0.32	5.1	4.5	16	LC
4QLPH7	91.0	93.6	89.9	90.9	91.4	0.80	3.7	1.6	91.9	1.29	4.0	1.4	16	LC
623WUZ	81.2 H	87.2 H	No DATA	No DATA	84.2	-0.61	9.3	4.2	79.4	-1.92	8.2	17.9 H	13	LA
6TT6RX	84.4	86.1	86.5	88.1	86.3	-0.20	4.3	1.5	86.6	-0.07	3.9	1.8	16	LC
793D67	92.5	91.5	93.8	93.8	92.9	1.11	4.6	1.1	91.9	1.30	4.6	2.1	16	LX
7H27EW	85.0	87.4	85.9	88.5	86.7	-0.12	2.6	1.5	87.1	0.06	2.2	1.0	12	LZ
7UJQXT	83.9 L	85.0	89.3	80.8 H	84.8	-0.50	4.9	3.5	88.3	0.37	4.5	2.9	16	LC
86CTD8	93.5	92.8	88.9	85.3	90.1	0.56	3.5	3.8	86.1	-0.20	3.2	3.9	16	LC
8A7P3X	89.2	87.5	89.0	93.1	89.7	0.47	3.8	2.4	88.6	0.43	4.4	3.0	16	LC
8KRRKT	75.7 *	73.2 *	73.7 *	75.9 *	74.6	-2.50 *	4.7	1.4	74.6	-3.17 X	5.0	5.2	12	MB
9BHM83	88.2	89.9	89.1	85.7	88.2	0.18	3.4	1.8	87.1	0.06	3.3	1.6	16	EM
9CC8ZU	85.4	85.4	82.6	84.0	84.4	-0.58	3.5	1.4	84.5	-0.61	3.3	1.5	16	LD
AF7NQT	91.3 L	90.3 L	91.5 L	92.7 L	91.4	0.82	1.0	1.0	92.3	1.41	1.4	2.2	16	TD
ANFZWY	96.8	97.6	98.2	95.6	97.0	1.92	4.5	1.1	92.2	1.36	4.9	3.7	16	LZ
BF2N3X	82.4	80.4	81.1	81.9 L	81.4	-1.16	3.3	0.9	81.8	-1.31	3.3	1.6	16	EN
BGX86Y	88.9	85.6	87.0	86.3	87.0	-0.07	4.5	1.4	84.4	-0.64	4.2	2.3	16	LC
CXZ44N	81.3	83.2	88.3	85.0	84.5	-0.56	2.9	2.9	81.5	-1.38	3.3	2.8	16	LC
DBYE2U	93.2	94.8	95.4	94.4	94.4	1.41	3.9	0.9	91.1	1.09	4.1	3.6	16	EM
DWYQVM	94.8	84.4 H	90.1	96.2	91.4	0.80	5.2	5.3 H	85.5	-0.35	6.5	9.2 H	14	MB
F8UJGH	91.1	89.3	93.4	96.3	92.5	1.03	3.5	3.0	88.2	0.35	4.2	3.9	16	XX
GDVEDM	81.6	79.9	81.2	81.9	81.2	-1.22	2.2	0.9	80.9	-1.53	2.6	1.5	16	EX
J44FZM	95.3	97.8	92.9	95.8	95.5	1.61	4.1	2.0	92.2	1.38	3.9	2.6	16	LD
JLLGUP	90.2	90.7	90.8	90.3	90.5	0.63	3.9	0.3 L	90.2	0.85	4.2	2.0	16	LC
KDKJKR	85.0	85.2	85.6 L	84.0	84.9	-0.47	2.4	0.7	84.1	-0.72	3.1	1.1	16	LD
M4A4QP	90.2	94.5	93.5	87.4	91.4	0.81	4.2	3.2	90.6	0.95	5.3	8.0 H	15	LC
M89FMN	78.3 H	78.7 H	81.1 H	79.8 H	79.5	-1.55	9.0	1.3	82.9	-1.03	7.5	3.4	16	MB
M94XNQ	89.9	90.0	89.7	89.6	89.8	0.49	4.5	0.2 L	88.6	0.45	4.3	3.0	16	LZ
MABFML	84.9	85.6	85.6	87.6	85.9	-0.27	3.8	1.2	85.4	-0.37	3.6	1.5	16	LD

Containerboard Interlaboratory Testing Program
 Analysis 215
Ring Crush, 42 lb Linerboard - 42D1
 TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
MVE2MR	88.7	89.0	No DATA	No DATA	88.8	0.30	3.1	0.2 L	87.9	0.26	3.5	2.5	12	LC
NHHJ3J	74.2 *	69.9 XH	84.4	83.7	78.0	-1.83	5.5	7.1 H	79.3	-1.96	4.3	5.0	16	EM
NT4MAH	83.1	96.7	94.8	83.4	89.5	0.43	3.5	7.3 H	91.5	1.18	3.8	4.6	12	LD
PRRYUD	85.7	84.8	84.5	84.7	84.9	-0.47	3.4	0.5	87.6	0.18	3.2	2.2	16	TH
Q8XMKH	84.1	88.6	86.9	89.3	87.2	-0.02	3.2	2.3	87.5	0.17	3.5	1.6	16	LD
RF2JGK	82.2	81.8	80.0	83.5	81.9	-1.07	3.2	1.4	81.2	-1.47	3.6	6.5	15	LZ
T627WE	81.3	80.5	83.2	83.9	82.2	-1.01	3.6	1.6	82.5	-1.11	4.4	3.0	16	LD
V4Y8QB	86.9	84.7	84.8	84.8	85.3	-0.40	3.9	1.1	85.7	-0.30	3.8	3.8	16	LC
VV7PKF	82.6	81.6 L	81.9	84.5	82.7	-0.92	3.9	1.3	85.7	-0.30	3.8	2.6	12	LC
VXC8JB	85.9 L	88.3	86.3	86.2 L	86.7	-0.12	2.8	1.1	87.0	0.04	3.8	1.3	16	LD
WLXJZC	98.2 *	95.2	99.9 *	101.4 *	98.7	2.25 *	4.6	2.7	92.1	1.33	3.9	5.5	16	LZ
Z43BEA	86.2	92.6	86.5	86.0	87.8	0.10	3.5	3.2	86.4	-0.13	3.6	2.4	16	LD
ZNBG46	98.8 *	93.3	96.6	95.2	96.0	1.71	3.4	2.3	95.1	2.12 *	3.8	3.9	16	TC

Consensus (All Labs) Results									
Wk Mean	86.82	87.61	87.71	87.58	Month Mean	87.31	Grand Mean	86.87	
Avg SDr	4.16	4.12	4.02	4.08	Avg SDr	4.22	Avg SDr	4.16	
SD btwn Labs	5.53	5.50	5.25	5.31	SD btwn Labs	5.06	SD btwn Labs	3.89	
Labs Includ	47	46	45	45	SD btwn Wks	2.51	SD btwn Wks	4.26	
Labs Excl'd	0	1	0	0	Labs Includ	47	Labs Includ	46	
Labs not rcvd	0	0	2	2					

Instrument Code List as Reported by the Labs

- (EM) - Emerson 1200
- (EX) - Emerson (model not specified)
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (LA) - L&W Autoline
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TC) - TMI Monitor/Compression Tester, Model 17-37
- (TH) - TMI Compression Tester, Model 17-76



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	84.8	79.5	77.9	79.2	80.3	-0.06	3.7	3.0	80.6	0.24	4.1	2.4	12	LC
2D8HTA	82.5	79.0	81.0	81.7 L	81.1	0.10	2.3	1.5	80.9	0.32	2.7	1.0	12	LD
2R4WT4	85.5	63.7 XH	85.5	88.1	80.7	0.02	6.2	11.4H	79.7	-0.02	5.7	10.6H	12	LC
2UBERY	80.1	80.2	80.1	80.2	80.2	-0.10	2.5	0.1 L	80.2	0.13	2.6	0.5 L	12	LD
3CPXD6	79.9	81.8	80.8	80.3	80.7	0.03	2.8	0.8	80.4	0.20	2.8	2.1	12	TH
3JQ9TA	75.1 L	76.9 L	77.6 L	77.0 L	76.6	-0.89	1.4	1.1	77.3	-0.69	2.5	2.1	12	LD
3TVF9A	72.5	68.7 *	71.7 *	71.9	71.2	-2.12 *	4.4	1.7	72.6	-2.00 *	3.8	2.2	8	LC
4AXC7Y	78.2	75.1	72.9	76.5	75.7	-1.11	3.8	2.2	77.2	-0.72	4.5	3.6	12	LC
4QLPH7	87.1	86.9	85.6	87.2	86.7	1.38	2.8	0.7	85.5	1.61	2.9	1.5	12	LC
623WUZ	91.4 *	81.1	82.1	80.7	83.8	0.73	4.0	5.1 H	79.7	-0.01	5.1	5.0	11	LA
6TT6RX	79.7	81.8	82.1	81.6	81.3	0.16	2.5	1.1	81.2	0.40	2.8	1.8	12	LC
793D67	86.1	84.9 H	85.9	84.1	85.3	1.05	4.9	0.9	85.4	1.58	4.9	0.9	12	LX
7H27EW	80.5 L	80.6 L	81.0 L	81.1 L	80.8	0.05	1.2	0.3 L	80.1	0.09	1.3	0.9	8	LZ
7UJQXT	85.1	80.5	82.4	85.4	83.4	0.63	2.7	2.3	84.0	1.18	3.1	1.8	8	LC
86CTD8	86.6	84.9	79.3	78.3	82.3	0.38	3.6	4.1	81.3	0.45	3.1	3.3	12	LC
8A7P3X	82.5 L	76.6	80.0	77.5	79.1	-0.33	3.0	2.7	75.3	-1.25	7.0	7.1 H	10	LC
8KRRKT	68.3 *	71.6	73.5	67.9 *	70.3	-2.32 *	3.2	2.7	71.1	-2.42 *	3.2	2.8	8	MB
9BHM83	80.4	82.7 L	85.0	79.2	81.8	0.28	2.1	2.6	80.0	0.07	2.1	3.8	12	EM
9CC8ZU	78.2	80.4	75.4 L	78.2	78.1	-0.57	1.8	2.1	78.3	-0.39	2.1	1.4	8	LD
AF7NQT	73.8	76.8 L	75.3 L	73.4 L	74.8	-1.30	1.6	1.5	74.2	-1.56	2.5	1.6	12	TD
ANFZWY	89.6	90.5 *	84.8	87.2	88.0	1.67	3.2	2.6	85.7	1.66	3.8	3.6	12	LZ
BF2N3X	79.6	77.6	79.2	78.1	78.6	-0.45	3.7	0.9	79.0	-0.20	3.0	1.2	12	EN
BGX86Y	78.9	75.8	75.7	78.6	77.2	-0.76	3.8	1.7	77.3	-0.68	3.7	1.7	12	LC
CXZ44N	76.7	77.6	83.0	78.3	78.9	-0.38	2.3	2.8	77.0	-0.76	2.5	2.4	12	LC
DBYE2U	85.3	82.9 H	85.3	84.8	84.6	0.90	5.1	1.1	80.1	0.09	4.0	7.0 H	12	EM
DWYQVM	81.3	80.3	84.8	88.0	83.6	0.69	3.9	3.5	81.9	0.60	3.9	4.8	11	MB
F8UJGH	82.9	81.4	85.2	87.7	84.3	0.84	2.7	2.8	82.0	0.63	2.7	3.2	12	XX
GDVEDM	74.5	75.1	74.9 L	75.7	75.1	-1.25	2.4	0.5	75.2	-1.27	2.4	0.9	12	EX
J44FZM	84.7	84.8	83.5	84.8	84.5	0.87	3.5	0.6	83.5	1.06	3.1	1.5	12	LD
JLLGUP	85.1	82.1	88.1	86.3	85.4	1.09	3.9	2.5	81.2	0.42	3.9	6.6 H	12	LC
KDKJKR	76.1	76.6	80.9	79.0	78.1	-0.56	2.4	2.2	77.9	-0.52	2.9	1.6	12	LD
M4A4QP	84.4 L	84.0	79.8	81.8	82.5	0.43	3.6	2.1	79.9	0.03	5.2	11.5 H	12	LC
M89FMN	71.9 H	69.5 *H	69.9 *H	70.2 *H	70.4	-2.30 *	10.1	1.0	74.2	-1.55	8.0	3.3	12	MB
M94XNQ	86.2	83.2	84.0	82.2	83.9	0.75	2.7	1.7	83.1	0.94	3.0	3.0	12	LZ
MABFML	81.9	80.5	79.0	81.6 L	80.8	0.04	2.5	1.3	79.4	-0.08	2.7	1.7	12	LD

Containerboard Interlaboratory Testing Program
 Analysis 217
 Ring Crush, 36 lb Linerboard - 36Z3
 TAPPI Official Test Method T822



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
MVE2MR	81.8 L	86.3 L	No DATA	No DATA	84.1	0.79	1.5	3.2	82.5	0.77	2.2	2.3	9	LC
NHHJ3J	68.8 *H	66.9 *H	80.2	80.4	74.1	-1.47	6.3	7.2 H	74.8	-1.37	5.4	6.0 H	12	EM
NT4MAH	79.1	87.9	87.8	78.9	83.4	0.64	2.4	5.1 H	83.4	1.03	2.4	3.4	12	LD
PRRYUD	79.1	78.7	79.8	80.5	79.5	-0.24	2.9	0.8	80.1	0.10	2.7	0.7	12	TH
Q8XMKH	82.4	82.3	80.9	82.6	82.0	0.33	2.4	0.8	81.7	0.56	2.8	1.0	12	LD
RF2JGK	75.5	75.7	77.4 L	75.5	76.0	-1.03	3.1	0.9	72.6	-2.00	4.6	7.0 H	12	LZ
T627WE	79.8	76.4	80.8	78.8	79.0	-0.37	3.0	1.9	78.7	-0.29	2.5	1.5	12	LD
V4Y8QB	80.4	78.0	79.1	82.0	79.8	-0.17	2.5	1.7	79.4	-0.11	2.3	1.3	8	LC
VV7PKF	79.3	80.0	76.3	79.5	78.8	-0.41	3.3	1.7	80.2	0.14	2.8	2.4	12	LC
VXC8JB	81.0	81.6	82.4	81.1	81.5	0.21	2.7	0.6	82.7	0.82	2.9	1.4	12	LD
WLXJZC	88.8	89.5	93.1 X	93.4 *	91.2	2.39 *	3.0	2.4	84.0	1.21	2.9	6.1 H	12	LZ
Z43BEA	82.3	86.0	81.2	85.9	83.8	0.73	2.7	2.5	79.3	-0.11	3.4	3.7	12	LC
ZNBG46	88.4	86.7	81.9	83.8 L	85.2	1.04	3.4	2.9	85.6	1.65	4.2	2.6	12	TC

Consensus (All Labs) Results										
Wk Mean	80.83	80.17	80.34	80.60	Month Mean	80.59	Grand Mean	79.73		
Avg SDr	3.32	3.72	3.52	3.38	Avg SDr	3.47	Avg SDr	3.60		
SD btwn Labs	5.16	5.12	4.16	4.80	SD btwn Labs	4.42	SD btwn Labs	3.57		
Labs Includ	47	47	45	46	SD btwn Wks	2.44	SD btwn Wks	3.69		
Labs Excl'd	0	0	1	0	Labs Includ	47	Labs Includ	47		
Labs not rcvd	0	0	1	1						

Instrument Code List as Reported by the Labs

- (EM) - Emerson 1200
- (EX) - Emerson (model not specified)
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (EN) - Emerson 2200
- (LA) - L&W Autoline
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TC) - TMI Monitor/Compression Tester, Model 17-37
- (TH) - TMI Compression Tester, Model 17-76



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	23.1	23.8	22.3	23.2	23.1	0.70	1.7	0.6	22.8	0.63	1.6	0.5	16	LU
2D8HTA	21.4	22.7	21.9	22.2	22.0	-0.28	1.6	0.5	22.0	-0.17	1.5	0.5	16	BK
2MUJC6	22.3	23.0	22.9	24.5	23.2	0.75	2.7	0.9	23.4	1.16	2.1	1.0	11	LU
3CPXD6	21.8	21.9	22.3	22.1	22.0	-0.27	0.9	0.2	22.1	-0.16	1.0	0.2	16	TT
3TVF9A	21.9	22.0	23.8	22.4	22.5	0.14	2.2	0.9	22.2	-0.06	2.1	0.8	12	LW
4AXC7Y	23.1	22.8	23.2	23.8	23.2	0.82	1.3	0.4	23.3	1.05	1.4	0.7	16	LU
4QLPH7	23.9 L	22.8 L	22.7 L	21.7 L	22.8	0.38	0.0	0.9	23.0	0.82	0.0	0.7	16	LA
623WUZ	23.2 L	22.3 L	20.1 L	18.6 XL	21.0	-1.21	0.5	2.1 H	21.0	-1.16	0.4	1.6	14	LA
6TT6RX	21.9	21.7	22.1	21.4	21.8	-0.54	2.2	0.3	21.6	-0.65	1.9	0.4	16	LU
7JWNFY	22.3	21.3	21.6	22.1	21.8	-0.47	1.9	0.4	21.8	-0.41	1.9	0.5	16	LY
7UJQXT	20.4	19.5 *	20.0	21.1	20.2	-1.95	1.4	0.7	21.2	-1.02	1.7	0.8	16	LU
86CTD8	23.2 L	22.7 L	21.3 L	21.2 L	22.1	-0.23	0.3	1.0	21.4	-0.84	1.6	0.7	16	LA
8A7P3X	22.7	23.0	23.0	23.8	23.1	0.73	1.0	0.5	22.8	0.63	0.9	0.7	16	LY
8JD3J2	20.7	24.8	22.7	24.8	23.3	0.85	2.0	2.0 H	23.3	1.11	2.0	1.5	14	LU
8KMALU	21.0 L	21.0 L	20.9 L	21.1 L	21.0	-1.25	0.3	0.1 L	20.6	-1.66	0.4	0.5	16	LA
8Z2HMX	22.4	23.1	22.7	22.2	22.6	0.20	2.0	0.4	23.2	0.93	2.0	0.7	16	LZ
9BVB9U	23.5	23.8 L	21.9	21.9	22.8	0.39	1.3	1.0	23.0	0.76	1.3	0.7	16	LU
9CC8ZU	20.6	21.3	20.1	20.2	20.5	-1.67	1.7	0.5	20.7	-1.50	1.7	0.4	16	LW
BF2N3X	21.3	20.7	19.8	21.0	20.7	-1.52	2.0	0.6	20.4	-1.76	1.9	0.6	12	LY
BGX86Y	23.8	23.5	22.4	23.3	23.2	0.82	2.0	0.6	23.2	0.93	1.9	0.6	16	LW
DWYQVM	22.3 L	20.6 L	21.1 L	23.4 L	21.8	-0.46	0.1	1.3	21.3	-0.89	0.1	0.9	15	LA
E68QJU	22.2	22.5	22.7	22.4 L	22.5	0.10	0.8	0.2	22.5	0.33	0.9	0.2	16	TT
J44FZM	23.5	23.2	24.4	24.8	24.0	1.50	2.1	0.8	23.2	1.01	2.0	0.9	16	XX
JCVXEV	25.6 *	24.9	25.9 *	24.6	25.2	2.66 *	2.1	0.6	25.3	3.06 X	2.2	1.0	12	LA
JLLGUP	21.5 L	22.6 L	24.2 L	22.1 L	22.6	0.23	0.4	1.1	22.1	-0.15	0.4	0.8	16	LA
M4A4QP	20.6 L	21.8 L	21.4 L	21.5 L	21.3	-0.95	0.5	0.5	20.6	-1.57	0.7	5.0 H	16	LW
M89FMN	22.5 L	23.8 L	23.7 L	22.4 L	23.1	0.69	0.5	0.7	23.2	0.98	0.5	1.0	16	BK
M94XNQ	21.5	21.1	21.2	21.6	21.4	-0.89	2.0	0.2	21.2	-0.96	1.8	0.5	16	LW
MABFML	22.2	22.2	21.7	21.8	22.0	-0.34	1.8	0.3	21.3	-0.91	1.9	0.5	16	LU
MUHLCF	23.6	23.3	22.2	22.9	23.0	0.61	1.4	0.6	23.0	0.75	1.6	0.7	16	XX
MVE2MR	21.7	23.4	No DATA	No DATA	22.5	0.18	1.9	1.2	21.7	-0.54	1.7	0.8	12	LW
MZNE7C	21.7 L	21.5 L	21.3 L	22.3 L	21.7	-0.61	0.0	0.4	21.9	-0.31	0.0	0.6	16	TT
NT4MAH	20.8	24.3	23.6	21.1	22.5	0.11	1.9	1.8 H	22.7	0.47	1.8	1.4	12	LZ
P7PB4G	25.4 *	23.7	24.2	23.6	24.2	1.72	2.1	0.8	24.3	2.05 *	2.2	0.8	16	LW
Q8XMKH	23.0	23.3	24.0	22.7	23.3	0.84	1.8	0.5	23.5	1.32	1.9	1.0	16	LY



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
RF2JGK	21.6	21.0	20.7	21.7	21.2	-1.02	1.8	0.5	21.4	-0.83	1.7	0.5	15	LZ
T627WE	20.0	21.0	21.0	21.7	20.9	-1.30	1.9	0.7	21.0	-1.25	2.0	0.5	16	LY
UQVC3G	18.7 *L	21.5 L	20.6 L	19.4 *L	20.1	-2.10 *	0.3	1.2	20.3	-1.88	0.5	1.1	15	LW
V4Y8QB	22.1	23.3	22.5	22.6	22.6	0.26	1.1	0.5	23.0	0.82	1.4	0.6	16	LZ
VV7PKF	21.7 L	22.1 L	22.0 L	21.6 L	21.8	-0.46	0.4	0.2	22.1	-0.09	0.4	0.5	12	LA
VXC8JB	21.6	21.9	21.3	22.7	21.9	-0.43	2.4	0.6	22.6	0.34	2.1	0.8	16	LA
XTR3Z7	23.9	23.8	23.4	23.8	23.7	1.27	1.7	0.2	23.6	1.40	2.1	1.0	16	LA
XWVXJA	23.2 L	23.0 L	21.9 L	21.9 L	22.5	0.15	0.0	0.7	22.2	-0.03	0.0	0.7	16	LU
Z43BEA	22.3	24.3	24.5	22.8	23.5	1.03	1.9	1.1	23.0	0.75	1.9	1.0	16	LY
ZNBG46	22.5 L	24.5	21.6 L	24.4 L	23.2	0.83	0.8	1.4	22.8	0.57	0.9	1.3	16	LA

Consensus (All Labs) Results									
Wk Mean	22.22	22.58	22.25	22.41	Month Mean	22.35	Grand Mean	22.21	
Avg SDr	1.52	1.60	1.54	1.60	Avg SDr	1.57	Avg SDr	1.53	
SD btwn Labs	1.32	1.24	1.36	1.23	SD btwn Labs	1.09	SD btwn Labs	1.00	
Labs Includ	45	45	44	43	SD btwn Wks	0.86	SD btwn Wks	1.10	
Labs Exclud	0	0	0	1	Labs Includ	45	Labs Includ	44	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

(LY) - L & W 152 without moisture correction

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

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

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

Containerboard Interlaboratory Testing Program

Analysis 225

STFI, 36 lb Linerboard - 36Z3

TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	21.6	21.9	22.0	22.3	22.0	0.40	1.2	0.3	21.8	0.34	1.3	0.3	12	LU
2D8HTA	21.3	21.8	20.6	21.0	21.2	-0.52	1.2	0.5	21.0	-0.61	1.1	0.3	12	BK
2MUJC6	20.8 L	21.3	21.4	21.9	21.3	-0.30	1.6	0.5	21.6	0.07	1.4	0.6	10	LU
3CPXD6	21.5	21.6	21.1	21.3	21.4	-0.26	0.8	0.2	21.4	-0.15	0.8	0.2	12	TT
3TVF9A	22.0	21.2	21.6	21.7	21.6	0.02	1.3	0.3	21.7	0.19	1.5	0.3	8	LW
4AXC7Y	21.8	21.6	21.6	21.6	21.7	0.07	0.8	0.1 L	21.8	0.28	0.9	0.5	12	LU
4QLPH7	19.0 *L	22.2 L	19.8 L	21.6 L	20.7	-1.10	0.0	1.5 H	21.0	-0.61	0.0	1.0	12	LA
623WUZ	19.6 L	20.6 L	20.1 L	19.9 L	20.1	-1.79	0.3	0.4	19.7	-2.26 *	0.2	0.6	10	LA
6TT6RX	21.6	21.1	21.4	21.1	21.3	-0.36	1.1	0.2	21.3	-0.29	1.1	0.4	12	LU
7JWNFY	21.3	21.2	21.4	21.5	21.3	-0.32	1.2	0.1	21.3	-0.32	1.3	0.2	12	LY
7UJQXT	20.5 H	19.7 *	20.8	20.2	20.3	-1.52	1.7	0.5	20.8	-0.93	1.6	0.7	8	LU
86CTD8	20.3 L	21.7 L	22.1 L	20.7 L	21.2	-0.47	0.3	0.8	21.2	-0.40	1.1	0.5	12	LA
8A7P3X	19.8	20.9	21.1	21.9 L	20.9	-0.81	0.6	0.9	21.8	0.30	0.6	1.0	12	LY
8JD3J2	21.8	23.7	23.6 *	22.6	22.9	1.51	1.6	0.9	22.5	1.17	1.5	0.9	10	LU
8KMALU	20.5 L	20.7 L	20.0 L	20.2 L	20.3	-1.46	0.2	0.3	20.2	-1.64	0.2	0.3	12	LA
8Z2HMX	23.2	22.8	22.7	23.8 *	23.1	1.74	1.5	0.5	22.5	1.12	1.4	0.6	12	LZ
9BVB9U	21.0	22.1	21.7	21.9	21.7	0.09	0.9	0.5	21.8	0.36	1.1	0.6	12	LU
9CC8ZU	20.6	20.2	19.8	20.9	20.4	-1.41	1.4	0.5	20.5	-1.24	1.3	0.4	8	LW
BF2N3X	20.9	20.0	20.0	19.8	20.2	-1.65	1.0	0.5	20.4	-1.44	1.2	0.6	8	LY
BGX86Y	23.2	23.4	21.4	23.4	22.9	1.43	1.1	0.9	22.5	1.18	1.4	0.7	12	LW
DWYQVM	21.1 L	20.6 L	20.6 L	22.3 L	21.1	-0.55	0.1	0.8	20.9	-0.82	0.0	0.5	11	LA
E68QJU	22.0	21.7	21.5	21.9	21.8	0.18	0.9	0.2	21.8	0.29	0.8	0.2	12	TT
J44FZM	22.9	22.9	22.8	22.7	22.8	1.36	1.3	0.1 L	22.5	1.10	1.2	0.5	12	XX
JCVXEY	23.8 *	23.2	23.6 *	23.6	23.5	2.21 *	1.2	0.3	23.6	2.42 *	1.2	0.2	8	LA
JLLGUP	21.4 L	21.0 L	21.3 L	21.5 L	21.3	-0.35	0.2	0.2	21.4	-0.20	0.2	0.4	12	LA
M4A4QP	21.3	22.5	20.9	21.7	21.6	-0.02	0.9	0.7	19.4	-2.56 *	0.7	4.1 H	12	LW
M89FMN	22.4 L	22.5 L	21.6 L	22.4 L	22.2	0.72	0.2	0.4	22.0	0.54	0.3	0.4	12	BK
M94XNQ	20.9	20.9	20.4	20.3	20.6	-1.14	1.4	0.3	20.7	-1.00	1.2	0.4	12	LW
MABFML	21.2	21.2	21.6	22.1	21.5	-0.11	1.2	0.5	21.3	-0.30	1.2	0.5	12	LU
MUHLCF	22.5	21.7	21.8	21.9	22.0	0.40	1.1	0.4	22.0	0.57	1.1	0.6	12	XX
MVE2MR	21.5	21.5	No DATA	No DATA	21.5	-0.12	1.2	0.0 L	21.5	-0.10	1.2	0.4	9	LW
MZNE7C	20.9 L	21.4 L	20.2 L	20.4 L	20.7	-1.03	0.0	0.6	21.4	-0.20	0.0	0.7	12	TT
NT4MAH	20.5	23.7	23.1	20.5	22.0	0.43	1.3	1.7 H	21.6	0.02	1.4	1.0	12	LZ
P7PB4G	23.5	22.8	23.1	22.6	23.0	1.58	1.3	0.4	23.0	1.81	1.4	0.4	12	LW
Q8XMKH	23.2	23.7	23.1	23.6	23.4	2.06 *	1.3	0.3	22.8	1.57	1.3	0.9	12	LY

Containerboard Interlaboratory Testing Program
 Analysis 225
STFI, 36 lb Linerboard - 36Z3
 TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
RF2JGK	20.7	21.3	20.8	21.3	21.0	-0.68	1.0	0.4	21.0	-0.63	1.2	0.3	12	LZ
T627WE	21.7	21.7	21.4	21.8	21.6	0.04	1.1	0.2	21.1	-0.52	1.1	0.6	12	LY
UQVC3G	20.7 L	20.4 L	20.7 L	22.2 L	21.0	-0.70	0.3	0.8	21.0	-0.70	0.7	3.5 H	11	LW
V4Y8QB	22.1	21.7	21.9	22.9	22.2	0.62	1.1	0.5	21.9	0.43	1.1	0.5	8	LZ
VV7PKF	20.6 L	21.9 L	21.4 L	21.0 L	21.2	-0.47	0.2	0.6	21.7	0.22	0.2	0.9	12	LA
VXC8JB	21.5	21.6	21.6	21.3	21.5	-0.14	1.3	0.1	21.8	0.28	1.2	0.4	12	LA
XTR3Z7	22.7	23.1	22.3	22.3	22.6	1.13	1.5	0.4	22.6	1.31	1.5	0.5	12	LA
XWVXJA	21.4 L	21.6 L	21.6 L	21.5 L	21.5	-0.13	0.0	0.1 L	21.5	-0.07	0.0	0.3	12	LU
Z43BEA	22.2	23.2	21.8	23.2	22.6	1.12	1.5	0.7	22.3	0.90	1.4	1.0	12	LY
ZNBG46	21.2 L	23.6	20.8 L	22.1 L	21.9	0.32	0.6	1.2	22.0	0.49	0.4	1.0	12	LA

Consensus (All Labs) Results										
Wk Mean	21.46	21.79	21.45	21.73	Month Mean	21.61	Grand Mean	21.55		
Avg SDr	1.07	1.06	1.06	1.08	Avg SDr	1.07	Avg SDr	1.08		
SD btwn Labs	1.04	1.04	0.98	1.00	SD btwn Labs	0.87	SD btwn Labs	0.83		
Labs Incd	45	45	44	44	SD btwn Wks	0.61	SD btwn Wks	0.99		
Labs Excld	0	0	0	0	Labs Incd	45	Labs Incd	45		
Labs not rcvd	0	0	1	1						

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

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

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

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

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

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

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

Containerboard Interlaboratory Testing Program
 Analysis 228
Roughness - Stylus Method, 69 lb Linerboard - 69C
 TAPPI Provisional Test Method T575



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3TVF9A	131.2	-0.22	8.8	127.7	-0.37	11.9	3	EV
4AXC7Y	109.0	-1.62	13.3	104.1	-1.75	10.5	2	LA
4QLPH7	113.9	-1.31	14.4	121.6	-0.73	13.0	4	LA
623WUZ	149.2	0.91	14.4	276.8	8.37 X	25.8	4	LA
7JWNFY	160.6	1.64	16.0	154.6	1.21	14.4	4	EV
8A7P3X	102.4	-2.04 *	10.5	96.5	-2.19 *	9.2	4	EV
8KMALU	122.3	-0.78	13.6	126.7	-0.43	10.6	4	EV
8Z2HMX	122.0	-0.80	17.3	122.3	-0.69	11.9	4	LA
9BVB9U	146.9	0.77	10.6	137.0	0.18	11.7	4	EV
BF2N3X	151.3	1.05	12.8	155.6	1.27	12.5	4	EV
DWYQVM	137.8	0.20	15.1	132.4	-0.09	13.9	3	LA
HVUQLN	138.6	0.24	11.5	135.6	0.10	10.7	2	EV
JLLGUP	141.6	0.43	23.2	140.8	0.40	23.8	4	LA
M4A4QP	139.3	0.29	17.1	138.0	0.23	13.5	4	EV
M89FMN	138.5	0.24	16.7	139.9	0.35	12.9	4	EV
M94XNQ	131.0	-0.24	9.5	143.4	0.55	11.6	4	EV
MABFML	146.2	0.73	15.5	143.5	0.56	11.5	4	EV
NT4MAH	148.6	0.88	14.2	154.6	1.21	16.0	3	LA
VV7PKF	148.3	0.86	19.9	157.2	1.36	18.1	3	LA
XTR3Z7	115.3	-1.22	10.9	113.6	-1.19	10.8	4	LA

Consensus (All Labs) Results

Month Mean	134.70	Grand Mean	133.95
Avg SDr	14.68	Avg SDr	13.47
SD btwn Labs	15.86	SD btwn Labs	17.07
Labs Incd	20	Labs Incd	19

Instrument Code List as Reported by the Labs

(EV) - Emvco Microgag Model 210-R

(LA) - L & W Autoline

Containerboard Interlaboratory Testing Program
 Analysis 231
Internal Bond, 36 lb Linerboard - 36Z
 TAPPI Provisional Test Method T569



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3JQ9TA	108.3	-1.31	8.6	162.1	0.09	7.7	4	SC
4AXC7Y	146.8	-0.27	7.0	148.2	-0.28	9.2	4	TM
623WUZ	161.0	0.12	3.4	159.3	0.02	4.8	4	TM
6TT6RX	177.8	0.58	3.0	175.0	0.43	3.8	4	HY
86CTD8	184.4	0.76	7.2	193.2	0.91	7.3	4	HY
9BVB9U	134.0	-0.61	9.4	133.8	-0.66	8.9	4	TM
9CC8ZU	167.0	0.28	7.3	168.0	0.25	5.8	4	TM
ABQDCP	163.0	0.17	4.0	160.9	0.06	4.9	4	TM
M4A4QP	234.0	2.11 *	12.9	236.8	2.06 *	10.8	4	SC
MABFML	151.4	-0.14	8.1	148.1	-0.28	5.6	4	TM
VV7PKF	172.4	0.43	8.1	168.1	0.25	10.8	3	HY
VXC8JB	81.7	-2.04 *	0.7	67.5	-2.40 *	2.2	4	LZ
ZNBG46	153.4	-0.09	5.6	140.9	-0.47	5.5	4	SC

Consensus (All Labs) Results			
Month Mean	156.56	Grand Mean	158.58
Avg SDr	7.25	Avg SDr	7.18
SD btwn Labs	36.76	SD btwn Labs	37.88
Labs Incd	13	Labs Incd	13

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester
 (SC) - Scott Internal Bond Tester (Manual)

(LZ) - L & W (model not specified)
 (TM) - TMI Monitor/Internal Bond Tester

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



WebCode	Monthly Results			Cumulative Results			
	Mean	CPV	SDr	Mean	CPV	SDr	Months
2R4WT4	28.8	0.57	4.0	28.9	0.41	3.0	3
3TVF9A	24.4	-1.25	2.3	25.5	-0.75	2.0	3
4AXC7Y	30.1	1.11	1.3	29.6	0.64	1.3	4
623WUZ	30.2	1.15	1.6	32.2	1.51	2.3	4
6TT6RX	23.0	-1.83	1.0	23.9	-1.32	1.4	4
7JWNFY	39.8	5.14 X	3.4	33.3	1.89	3.5	4
8Z2HMX	26.8	-0.26	2.3	25.4	-0.79	2.0	4
9BVB9U	29.2	0.74	0.8	29.4	0.56	1.1	4
9CC8ZU	25.8	-0.66	3.2	25.0	-0.94	2.5	4
BF2N3X	24.0	-1.42	0.6	23.1	-1.58	1.3	4
BGX86Y	26.0	-0.59	2.3	26.1	-0.55	3.4	4
M4A4QP	30.6	1.32	3.4	26.8	-0.32	2.2	4
MABFML	26.4	-0.42	1.1	29.0	0.44	1.6	4
MUHLCF	27.6	0.07	0.7	28.9	0.40	1.2	4
U79NVA	27.3	-0.05	2.9	29.6	0.65	4.0	4
V4Y8QB	24.6	-1.17	0.5	22.7	-1.72	1.8	4
VV7PKF	29.1	0.71	1.7	28.5	0.26	2.8	3
VXC8JB	29.6	0.90	0.9	29.4	0.55	0.9	4
ZNBG46	30.0	1.07	1.0	29.7	0.66	1.1	4

Consensus (All Labs) Results			
Month Mean	27.42	Grand Mean	27.72
Avg SDr	2.04	Avg SDr	2.24
SD btwn Labs	2.41	SD btwn Labs	2.93
Labs Incd	18	Labs Incd	19

Instrument Code List as Reported by the Labs

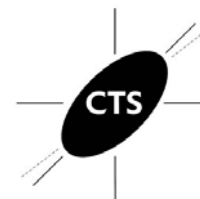
(ZZ) - Instruments No Longer Tracked

Containerboard Interlaboratory Testing Program

Analysis 237

Air Resistance, 36 lb Linerboard - 36Z

TAPPI Official Test Method T460



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3JQ9TA	51.0	-0.28	1.2	51.4	-0.02	1.3	4	LP
3ZH7U6	51.6	-0.01	1.2	51.8	0.17	1.5	4	XX
4AXC7Y	52.5	0.35	2.7	52.4	0.41	2.1	4	LA
4QLPH7	55.8	1.77	2.5	54.0	1.14	2.7	4	TL
623WUZ	51.8	0.07	1.1	51.5	0.05	3.0	4	LP
6TT6RX	53.1	0.62	2.9	52.2	0.35	2.4	4	TP
7H27EW	54.3	1.12	1.1	52.2	0.34	1.1	3	XX
7JWNFY	53.2	0.66	1.4	52.3	0.37	2.2	4	LP
8Z2HMX	50.4	-0.51	3.0	48.0	-1.48	3.9	4	XX
9BVB9U	46.1	-2.31 *	2.2	45.5	-2.58 X	2.2	4	LA
9CC8ZU	52.4	0.32	4.0	51.7	0.10	2.9	4	HG
A8RZPY	53.3	0.68	1.3	53.0	0.67	1.8	4	LP
BGX86Y	50.3	-0.57	1.5	51.0	-0.18	1.6	3	LP
F8UJGH	49.0	-1.10	2.5	50.3	-0.49	2.9	4	GG
JLLGUP	50.9	-0.29	1.8	50.7	-0.30	1.9	4	LA
M4A4QP	51.2	-0.18	2.3	51.6	0.07	2.8	4	HG
M89FMN	54.9	1.39	2.3	54.6	1.40	1.4	4	XX
MUHLCF	41.0	-4.48 X	1.9	41.3	-4.38 X	2.3	4	LA
P9T7MJ	48.5	-1.30	3.8	48.1	-1.44	2.6	3	LA
U79NVA	60.3	3.63 X	2.6	55.5	1.78	2.6	4	GA
VV7PKF	48.7	-1.23	1.4	49.2	-0.95	2.0	3	LA
VXC8JB	53.5	0.79	2.3	52.8	0.59	1.6	4	LA

Consensus (All Labs) Results

Month Mean	51.62	Grand Mean	51.41
Avg SDr	2.29	Avg SDr	2.31
SD btwn Labs	2.38	SD btwn Labs	2.31
Labs Incd	20	Labs Incd	21

Instrument Code List as Reported by the Labs

(GA) - Gurley Precision #4340 Automatic Densometer

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

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

(TP) - Technidyne Profile/ plus Roughness & Porosity

(GG) - Gurley Precision #4320 Densometer

(LA) - L & W Autoline

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

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

Containerboard Interlaboratory Testing Program
 Analysis 240
 Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM81
 TAPPI Official Test Method T809



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	
23QXAD	60.6	59.7 L	60.9	61.0	60.5	0.69	1.5	0.6	60.2	0.67	1.6	1.1	12	LD
2MUJC6	58.5	57.8	60.2	58.2	58.7	-0.07	2.0	1.1	53.0	-2.40 *	1.9	13.5 H	12	LZ
2UBERY	58.7	58.9	58.8	58.8	58.8	-0.03	2.0	0.1 L	59.9	0.54	2.3	0.8	12	LD
3CPXD6	60.2	58.1	60.6	58.3	59.3	0.18	3.3	1.3	60.1	0.62	2.9	1.7	12	TH
3ZH7U6	60.0	59.1	60.7	61.4	60.3	0.58	2.3	1.0	59.7	0.46	2.2	0.8	12	LD
4AXC7Y	60.0	60.5	58.9	62.2	60.4	0.63	3.3	1.4	61.5	1.19	3.4	3.5	12	LC
4HCXF4	60.4	60.3	59.9	61.4	60.5	0.67	2.6	0.6	61.0	0.99	2.6	1.1	12	LD
6TT6RX	55.6	58.1	60.4	59.9	58.5	-0.15	2.9	2.2	59.1	0.18	2.9	1.7	12	LC
793D67	57.0	57.6	55.4	56.5	56.6	-0.91	2.4	0.9	57.3	-0.57	2.2	1.0	12	LD
7JWNFY	58.7	58.6	57.9	57.7	58.2	-0.25	2.7	0.5	58.6	-0.03	2.6	0.9	12	LZ
7UJQXT	61.8	66.3 *	67.6 XH	64.9 *	65.2	2.57 *	3.3	2.5	53.9	-2.01 *	2.8	16.0 H	12	LC
86CTD8	59.8	61.4	55.5	54.0	57.7	-0.48	2.4	3.5 H	58.0	-0.27	2.3	2.0	12	LC
8KRRKT	56.1	52.4 *H	54.8	57.7 H	55.3	-1.46	5.4	2.3	58.7	0.02	4.6	4.2	8	MB
9BHM83	61.9	61.9	61.7	61.9	61.8	1.20	2.5	0.1 L	61.2	1.09	2.7	1.2	12	EM
A8RZPY	58.3	60.7	58.9	60.1	59.5	0.27	2.8	1.1	60.0	0.57	3.2	1.6	12	LD
AF7NQT	63.3	63.2	61.9	63.3	62.9	1.64	1.8	0.7	62.9	1.82	1.4	0.8	8	TD
AHC7NN	60.3	59.7	61.4	61.6	60.7	0.76	2.4	0.9	61.2	1.08	2.2	0.8	11	LZ
BGX86Y	59.5	59.2	60.1	55.4	58.5	-0.13	2.4	2.1	59.4	0.32	2.2	2.0	12	LC
BMJWRU	56.3	57.5	57.8	57.6	57.3	-0.64	2.6	0.7	60.5	0.79	2.8	3.5	8	LC
BZRPBU	58.1	57.1	58.2	58.4	58.0	-0.36	2.2	0.6	58.2	-0.19	2.1	1.4	12	TD
CXZ44N	55.4	56.8	60.5	59.7	58.1	-0.31	3.1	2.4	56.9	-0.77	2.6	2.0	12	LC
DWYQVM	58.5	54.6	53.6	59.9	56.6	-0.90	2.7	3.0 H	54.2	-1.92	2.4	8.7 H	11	MB
E68QUJ	61.4	59.7 H	62.2	62.5 H	61.5	1.06	4.0	1.3	60.6	0.81	3.9	1.3	12	TG
J44FZM	57.7	56.4	57.3	57.9	57.3	-0.62	2.6	0.7	56.7	-0.84	2.9	0.9	8	LD
JCVXEV	56.4	53.2	54.8	54.2	54.7	-1.71	2.8	1.3	55.9	-1.18	2.9	1.6	8	LD
JL3VZD	60.3	60.3	61.0	62.1	60.9	0.84	2.0	0.9	60.9	0.95	1.9	0.8	12	LC
JR7N9N	61.1	60.3	61.1	61.1	60.9	0.83	2.3	0.4	60.9	0.95	2.3	0.8	12	TM
L4AGYQ	64.0	60.3	59.8	60.4	61.1	0.92	2.4	1.9	60.6	0.83	2.4	1.4	12	LC
M2Y4LH	56.4	57.2	56.6	57.9	57.0	-0.76	2.5	0.7	57.3	-0.58	2.6	1.0	12	LD
M89FMN	61.7 H	60.9	58.5	60.3	60.3	0.61	3.1	1.4	60.3	0.68	2.9	1.1	12	MB
MABFML	57.0	56.9	58.9	57.8	57.7	-0.49	2.2	0.9	56.4	-0.97	2.5	1.2	12	LD
MVE2MR	60.5	64.1	No DATA	No DATA	62.3	1.38	2.2	2.5	61.8	1.34	2.1	1.8	8	LC
NDMP6H	60.1	59.7 L	60.4 L	60.3	60.1	0.51	2.2	0.3	60.1	0.63	2.2	0.4 L	8	TH
NLL6ZG	58.9	59.0	59.7	55.7	58.3	-0.23	2.7	1.8	58.4	-0.10	2.3	1.0	12	LD
NT4MAH	55.8	56.8	56.1	56.8	56.4	-1.01	2.8	0.5	57.5	-0.50	2.7	1.5	10	LD

Containerboard Interlaboratory Testing Program
Analysis 240
Flat Crush Strength (CMT), 26 lb Corrugating Medium - CM81
 TAPPI Official Test Method T809



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
P7PB4G	56.8	56.5	53.9	55.6	55.7	-1.28	3.5	1.3	56.2	-1.05	3.6	1.6	11	LC
P9T7MJ	63.2	63.8	63.2	61.2	62.8	1.61	2.2	1.1	61.6	1.26	2.6	1.8	8	LC
Q8XMKH	58.2	59.8	59.4	61.2	59.7	0.33	2.1	1.2	59.1	0.19	2.4	1.0	12	LD
QWTURH	58.8	59.2	59.0	58.5	58.9	0.01	2.7	0.3	58.6	-0.03	2.5	0.9	12	LD
RF2JGK	60.6	55.9	54.1 H	59.2 L	57.4	-0.58	2.7	3.0	57.4	-0.55	2.9	3.0	8	LZ
RZWPBK	58.3	59.0	59.3	58.7	58.8	-0.01	2.7	0.4	58.4	-0.12	2.4	0.9	12	LC
TRC9VF	56.3	57.3	58.0	56.8	57.1	-0.72	2.2	0.7	56.8	-0.80	2.2	0.8	8	EM
V4Y8QB	54.4	53.6	52.4 *	54.2	53.7	-2.11 *	3.9	0.9	55.1	-1.52	3.0	1.7	12	LC
VXC8JB	53.4 *	54.1 L	53.3	54.0	53.7	-2.11 *	2.1	0.4	55.0	-1.58	2.0	1.4	12	LD
WLXJZC	66.1 *	67.8 X	68.1 X	70.8 X	68.2	3.80 X	3.3	2.0	68.8	4.31 X	3.1	1.3	12	XX

Consensus (All Labs) Results									
Wk Mean	59.03	58.71	58.50	58.98	Month Mean	58.86	Grand Mean	58.66	
Avg SDr	2.57	2.84	2.61	2.84	Avg SDr	2.72	Avg SDr	2.63	
SD btwn Labs	2.63	2.86	2.72	2.66	SD btwn Labs	2.46	SD btwn Labs	2.35	
Labs Incl	45	44	42	43	SD btwn Wks	1.47	SD btwn Wks	3.78	
Labs Excl	0	1	2	1	Labs Incl	44	Labs Incl	44	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

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

(TM) - TMI/Hinde & Dauch

(LC) - L & W Crush Tester 48

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

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

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

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

Containerboard Interlaboratory Testing Program
Analysis 250

Fluted Edge Crush Strength (FCF), 26 lb Corrugating Medium - CM81

TAPPI Official Method T824



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks	Wks	Inst
23QXAD	63.1	60.9	62.7	63.7	62.6	-1.52	2.3	1.2	63.4	-0.57	2.0	2.1	12	LD
6TT6RX	69.2	68.6	70.5	71.9	70.1	1.04	2.1	1.5	70.8	1.00	1.9	1.7	12	LC
7H27EW	71.8	71.6	70.7	70.9	71.3	1.45	1.6	0.5	71.5	1.14	1.6	0.6	8	XX
8KRRKT	56.9 *	47.4 X	53.7 X	56.5 *	53.6	-4.61 X	2.1	4.4 H	55.1	-2.32 *	2.0	3.3	8	MB
AF7NQT	70.1 L	69.3	68.9	69.1	69.3	0.78	1.4	0.5	69.8	0.78	1.2	0.9	8	TD
BGX86Y	63.8	64.2	63.2	61.1	63.1	-1.37	1.7	1.4	65.9	-0.06	2.1	2.8	12	XX
L4AGYQ	61.8	66.2	68.1	65.8 H	65.5	-0.54	2.9	2.6	66.4	0.06	3.9	2.2	12	LZ
MVE2MR	65.7	67.9	No DATA	No DATA	66.8	-0.09	2.4	1.5	66.1	0.00	2.3	1.8	8	LC
NLL6ZG	66.5	65.2	65.6	64.4	65.4	-0.56	2.0	0.9	61.6	-0.96	2.4	3.0	12	LD
RF2JGK	67.5 H	70.9	69.2	67.9	68.9	0.62	3.2	1.5	67.7	0.34	3.9	2.4	8	LZ
VXC8JB	68.7 L	66.9	67.7	67.1	67.6	0.19	1.8	0.8	68.9	0.59	1.6	1.4	12	LD

Consensus (All Labs) Results									
Wk Mean	65.91	67.16	67.40	65.85	Month Mean	67.05	Grand Mean	66.12	
Avg SDr	2.48	1.91	2.37	1.94	Avg SDr	2.20	Avg SDr	2.39	
SD btwn Labs	4.29	3.22	2.95	4.65	SD btwn Labs	2.91	SD btwn Labs	4.74	
Labs Includ	11	10	9	10	SD btwn Wks	1.38	SD btwn Wks	2.19	
Labs Exclud	0	1	1	0	Labs Includ	10	Labs Includ	11	
Labs not rcvd	0	0	1	1					

Instrument Code List as Reported by the Labs

(LC) - L & W Crush Tester 48

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

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

(LD) - L&W Crush Tester 248

(MB) - Messmer Buchel K440

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

Containerboard Interlaboratory Testing Program
 Analysis 255
Ring Crush (RCT), 26 lb Corrugating Medium - CM81
 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 Wks	Mean	CPV	SDr	SD Wks	Wks	
2UBERY	38.4	38.4	38.4	38.4	38.4	0.73	1.9	0.0 L	37.7	0.28	1.7	0.5	12	LD
3ZH7U6	35.9	36.7	36.0	36.4	36.2	-0.39	1.8	0.4	36.2	-0.60	1.9	0.8	12	LD
4HCXF4	39.8	39.4	38.6	39.4	39.3	1.22	1.6	0.5	39.3	1.16	1.9	0.5	12	LD
6TT6RX	35.6	34.9	35.7	36.6	35.7	-0.68	1.6	0.7	37.4	0.10	1.9	2.3	12	LC
793D67	38.7	39.6	39.1	38.7	39.0	1.07	1.7	0.4	39.4	1.22	2.1	1.1	12	LZ
8KRRKT	27.1 *	29.3 X	27.9 *	27.3 X	27.9	-4.75 X	2.2	1.0	28.1	-5.16 X	2.3	0.8	8	MB
BGX86Y	31.1 H	36.0	31.6	33.8	33.1	-2.01 *	2.7	2.3 H	33.6	-2.03 *	2.1	1.6	12	LC
CXZ44N	33.7	35.6	35.7	35.1	35.1	-1.01	1.4	0.9	35.3	-1.07	1.6	1.4	12	LC
FX4XBK	34.8 L	36.2 L	35.8 L	36.4	35.8	-0.61	0.8	0.7	36.2	-0.61	0.9	0.8	8	WK
GCHRTN	34.6	36.1 H	38.4 H	39.4	37.1	0.09	3.1	2.2 H	35.8	-0.81	2.7	2.8 H	12	LZ
JL3VZD	38.8	37.3	36.0	36.9	37.2	0.13	1.4	1.2	38.3	0.60	1.3	1.2	12	LC
JR7N9N	38.3	40.1	39.8	39.9	39.5	1.33	1.7	0.8	36.9	-0.20	3.4	2.4	12	LD
M2Y4LH	38.7	37.7	38.8	37.1	38.1	0.57	1.8	0.8	37.7	0.24	1.6	0.6	12	LD
NDMP6H	31.4	33.5 *	33.4	32.5 *	32.7	-2.23 *	1.3	1.0	33.8	-1.94	1.3	1.5	8	TH
NT4MAH	38.1	39.9	40.2	38.2	39.1	1.10	1.6	1.1	39.3	1.19	1.8	1.1	10	LD
P9T7MJ	39.6	37.0 L	36.8	37.6	37.8	0.40	1.3	1.3	39.4	1.23	1.3	2.1	8	LD
PRRYUD	37.0	36.7	36.7	37.1	36.9	-0.07	2.3	0.2	38.0	0.41	2.2	2.0	12	TH
RQ78WC	27.5 *	26.5 XH	27.9 *	25.9 XH	27.0	-5.25 X	2.8	0.9	27.7	-5.34 X	3.6	3.7 H	12	EM
TRC9VF	37.5	36.9	37.8	37.4	37.4	0.20	1.8	0.4	37.9	0.37	1.7	0.8	8	LC
V4Y8QB	36.1	36.2	37.1	36.4	36.4	-0.28	1.7	0.5	36.5	-0.44	1.6	1.0	12	LC
VXC8JB	37.6	38.5	37.8	37.3	37.8	0.44	1.8	0.5	38.8	0.89	1.6	1.1	12	LD

Consensus (All Labs) Results										
Wk Mean	35.73	37.20	36.17	37.08	Month Mean	36.98			Grand Mean	37.23
Avg SDr	2.00	1.87	1.83	1.59	Avg SDr	1.83			Avg SDr	1.89
SD btwn Labs	3.70	1.77	3.42	1.85	SD btwn Labs	1.91			SD btwn Labs	1.78
Labs Includ	21	19	21	19	SD btwn Wks	1.01			SD btwn Wks	1.49
Labs Exclud	0	2	0	2	Labs Includ	19			Labs Includ	19
Labs not rcvd	0	0	0	0						

Instrument Code List as Reported by the Labs

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

- (LC) - L & W Crush Tester 48
- (LZ) - L & W Crush Tester (model not specified)
- (TH) - TMI Compression Tester, Model 17-76

Containerboard Interlaboratory Testing Program

Analysis 261

STFI, 26 lb Corrugating Medium - CM81

TAPPI Provisional Test Method T826



WebCode	Weekly Means				Monthly Results				Cumulative Results				Inst	
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wks	Mean	CPV	SDr	SD Wks		Wks
2MUJC6	11.2 L	10.5 *L	11.1 L	11.5	11.1	-1.73	0.4	0.4	12.2	-0.60	0.5	2.5 H	12	LU
3CPXD6	11.6	11.8	12.0	12.0	11.9	-0.50	0.6	0.2	12.2	-0.61	0.7	0.4	12	TT
6TT6RX	12.1	11.8	12.1	11.9	12.0	-0.30	0.7	0.2	12.1	-0.73	0.8	0.3	12	LU
7JWNFY	11.8	12.1	12.3	11.9	12.0	-0.25	0.7	0.2	12.2	-0.61	0.8	0.3	12	LB
AHC7NN	12.2	11.9	12.2	11.7	12.0	-0.28	0.8	0.2	12.0	-0.81	0.7	0.5	11	LW
DWYQVM	11.4 L	10.8 L	10.3 XL	11.3 L	11.0	-1.96	0.0	0.5	14.1	2.29 *	0.0	5.2 H	11	LA
GCHR TN	12.2	12.4	13.3	13.8 *	12.9	1.28	0.8	0.8 H	12.3	-0.48	0.8	0.8	12	LA
JL3VZD	13.6 *	12.4	12.8	13.2	13.0	1.40	0.7	0.5	13.5	1.44	0.7	0.8	12	XX
JR7N9N	11.6	11.8	13.2	12.2	12.2	0.07	0.8	0.7	12.5	-0.17	0.8	0.8	12	LA
M2Y4LH	12.1	12.1	12.6	12.0	12.2	0.04	0.6	0.3	11.9	-1.06	0.6	0.3	12	LA
M89FMN	11.9 L	11.3 L	11.6 L	11.7 L	11.6	-0.87	0.1	0.2	12.2	-0.55	0.1	0.8	12	BK
NLL6ZG	12.9	13.2	13.4	12.9	13.1	1.57	0.6	0.2	14.1	2.35 *	0.7	0.8	12	LA
NT4MAH	12.0	12.6	12.6	12.0	12.3	0.25	0.8	0.3	12.6	0.12	0.7	0.6	11	LZ
P7PB4G	12.5	12.2	12.3	11.5	12.1	-0.05	0.8	0.4	12.6	-0.03	0.8	0.9	11	LW
P9T7MJ	11.9	12.6	12.2	12.1	12.2	0.06	0.6	0.3	13.0	0.65	0.7	0.9	8	LA
QWTURH	12.8	13.0	12.9	12.9	12.9	1.27	0.7	0.1	12.8	0.41	0.8	0.1 L	12	LB
RQ78WC	21.0 XL	22.5 XL	21.7 XL	22.0 XL	21.8	15.81 X	0.0	0.7	20.0	11.42X	0.0	4.9 H	12	TS
RZWPBK	13.1	12.9	12.8	12.9	12.9	1.25	0.8	0.1	12.8	0.37	0.8	0.1 L	12	LB
TRC9VF	11.2	11.5	11.4	11.5	11.4	-1.23	0.7	0.1	11.6	-1.53	0.8	0.3	8	LB
V4Y8QB	11.6	11.7	12.0	12.3 L	11.9	-0.42	0.4	0.3	12.4	-0.22	0.5	0.6	12	LZ
VXC8JB	12.2	11.8	11.9	11.7	11.9	-0.43	0.7	0.2	12.4	-0.25	0.6	0.7	12	LA
Z43BEA	12.1	13.0	12.7	12.9	12.7	0.84	0.9	0.4	12.6	0.01	0.9	0.4	8	LB

Consensus (All Labs) Results

Wk Mean	12.10	12.07	12.37	12.18	Month Mean	12.16	Grand Mean	12.57
Avg SDr	0.65	0.66	0.73	0.67	Avg SDr	0.67	Avg SDr	0.69
SD btwn Labs	0.62	0.70	0.62	0.67	SD btwn Labs	0.61	SD btwn Labs	0.65
Labs Includ	21	21	20	21	SD btwn Wks	0.37	SD btwn Wks	1.37
Labs Exclud	1	1	2	1	Labs Includ	21	Labs Includ	21
Labs not rcvd	0	0	0	0				

Containerboard Interlaboratory Testing Program
Analysis 261
STFI, 26 lb Corrugating Medium - CM81
TAPPI Provisional Test Method T826



Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LB) - L & W Model 152

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

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

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

(LA) - L & W Autoline

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

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

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