



Collaborative Testing Services, Inc. Containerboard Interlaboratory Testing Program

Participant Summary Report #472 (A)- January 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>ECT2</u>	<u>Edgewise Compressive Strength of Fiberboard, Corrugated board</u>
<u>205</u>	<u>42X1</u>	<u>Mullen Burst of Linerboard, 42 lb Linerboard</u>
<u>206</u>	<u>69Y1</u>	<u>Mullen Burst of Linerboard, 69 lb Linerboard</u>
<u>215</u>	<u>42X1</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 42 lb Linerboard</u>
<u>216</u>	<u>69Y1</u>	<u>Ring Crush of Linerboard, Rigid Platen Type, 69 lb Linerboard</u>
<u>223</u>	<u>42X1</u>	<u>STFI of Linerboard, 42 lb Linerboard</u>
<u>224</u>	<u>69Y1</u>	<u>STFI of Linerboard, 69 lb Linerboard</u>
<u>228</u>	<u>42X</u>	<u>Roughness - Stylus Method, 42 lb Linerboard</u>
<u>231</u>	<u>42X1</u>	<u>Internal Bond Strength, Linerboard, 42 lb Linerboard</u>
<u>234</u>	<u>42X1</u>	<u>Coefficient of Static Friction - Inclined Plane, 42 lb Linerboard</u>
<u>237</u>	<u>42X1</u>	<u>Air Resistance - Gurley Method, Linerboard, 42 lb linerboard</u>
<u>240</u>	<u>CM71</u>	<u>Flat Crush Strength (CMT) of Medium, 26 lb Corrugating Medium</u>
<u>250</u>	<u>CM71</u>	<u>Fluted Crush of Medium, 26 lb Corrugating Medium</u>
<u>255</u>	<u>CM71</u>	<u>Ring Crush of Medium, 26 lb Corrugating Medium</u>
<u>261</u>	<u>CM71</u>	<u>STFI of Medium, 26 lb Corrugating Medium</u>

ABOUT CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately-owned company that specializes in interlaboratory tests for a wide variety of industries, including rubber, plastics, fasteners and metals, containerboard, paper, color, and wine, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 50 countries, currently participate in the CTS programs.

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Collaborative Testing Services, Inc.
CONTAINERBOARD INTERLABORATORY TESTING PROGRAM

INTRODUCTION

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

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

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

USE OF AVERAGE MEAN AS A COLLABORATIVE REFERENCE VALUE

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

Material	Lot Code	Dates in Use
36# Linerboard	36U2	December 2007 - April 2008
36# Linerboard	36U3	May 2008 -
42# Linerboard	42X1	March 2008 -
69# Linerboard	69V4	January 2007 - May 2008
69# Linerboard	69Y1	July 2008 -
Corrugating Medium	CM71	July 2007 -

EXPLANATION OF TABLES

Each analysis is divided into three time spans. On the left side of the table are the individual laboratory results for each week of the month; in the center are each lab's statistical data for the month; and on the right are each lab's cumulative data for up to 16 weeks. At the bottom of the table are the consensus statistics for all the participants for each of the three time spans.

Definitions of Terms Used

Weekly Results

Laboratory Data

WebCode - A six character laboratory identifier used to maintain information on a confidential basis. The WebCode is unique for each analysis and will change for each report. Your WebCode can be found in your Individual Report (Current Month Performance Report) and your datasheet.

Weekly Means - The average of the test results obtained by the participant for each week that data were reported.

Consensus Data

Wk Mean - For each week, the average of the Means for all the participants, excluding those laboratories flagged with an 'X'.

Avg SDr - For each week, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'. The Avg SDr is an indication of the variation of measurements within an average laboratory.

SD btwn Labs - For each week, the standard deviation of the laboratory Means about the Wk Mean, excluding those laboratories flagged with an 'X'. The SD LABS is an indication of the precision of measurement between the laboratories.

Labs Incl - The number of laboratory Means included in the Wk Mean for that week.

Labs Excl - The number of laboratory Means reported but excluded from the Wk Mean for that week because of outlying results ('X' following Mean).

Labs not rcvd - The number of laboratories failing to report for that week.

Monthly Results

Laboratory Data

Mean - For each laboratory, the average of all the weekly Means reported for this month.

CPV - **Comparative Performance Value**, an indication of how well a laboratory's Mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean). The closer a laboratory's CPV is to zero, the more consistent its results are with the other participants' data.

SDr - For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for all reported Weekly Means this month.

SD Wks - The standard deviation among the laboratory's weekly Means, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.

Consensus Data

Month Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for this month.

Avg SDr - For the current month, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.

SD btwn Labs - For the current month, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.

SD Wks - For the current month, the average of the laboratory between week standard deviations (SD Wks') for all the participants.

Labs Incl - The number of laboratory Means included in the Month Mean.

continued on next page

Cumulative Results

Laboratory Data

- Mean - For each lab, the average of all the monthly Means reported for the weeks shown.
- CPV - **Comparative Performance Value**, an indication of how well a laboratory's cumulative mean agrees with the other participants. The CPV is a ratio indicating the number of standard deviations from the consensus mean (Monthly Mean).
- SDr - For each laboratory, the average of the weekly within-lab standard deviations (SDr's) for the weeks shown.
- SD Wks- The standard deviation among the laboratory's weekly Means for the weeks shown, including those Means flagged with an 'X'. The SD Wks is an indication of that laboratory's ability to obtain constant results from week to week.
- Wks - The number of weeks included in the cumulative period.

Consensus Data

- Grand Mean - The average of the Means for all the participants, excluding those laboratories flagged with an 'X,' reporting data for the number of weeks included in the cumulative period.
- Avg SDr - For the cumulative period, the average of the within-laboratory standard deviations (SDr's) for all the participants, excluding those laboratories flagged with an 'X'.
- SD btwn Labs - For the cumulative period, the standard deviation of the laboratory Means about the Month Mean, excluding those laboratories flagged with an 'X'.
- SD Wks - For the cumulative period, the average of the laboratory between week standard deviations for all the participants.
- Labs Incl - The number of laboratory Means included in the Grand Mean.

Any laboratory that receives a 'flag' following a mean or standard deviation should refer to the chart below for an explanation of the data flag symbol:

Flag	Explanation
------	-------------

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

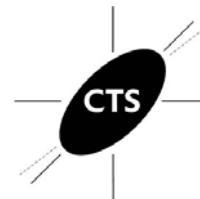


WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
IJG334	966.8	0.60	100.8	971.7	0.79	67.0	4	LG
31EJFD	921.0	-0.23	77.5	854.0	-1.82	57.3	4	LH
53R5VB	1,007.4	1.34	30.6	1,007.4	1.58	30.6	1	LL
67HY4X	1,001.1	1.23	58.6	938.2	0.04	44.7	4	XX
6VH99P	852.4	-1.47	30.1	884.4	-1.15	43.6	4	LG
7FJBB6	932.6	-0.02	44.4	931.3	-0.11	69.5	4	MC
89E76K	928.0	-0.10	42.3	958.8	0.50	63.2	4	ER
8UC4GE	972.9	0.71	59.0	972.9	0.81	59.0	1	LG
A5PC9P	926.4	-0.13	69.6	945.4	0.20	64.1	4	TO
FFJCC3	1,010.0	1.39	56.5	981.5	1.00	87.4	4	ER
H18A46	887.2	-0.84	57.9	938.7	0.05	47.0	4	TB
HKYKX7	941.0	0.13	56.6	937.1	0.02	57.3	4	LN
LB93TM	925.0	-0.16	69.1	924.3	-0.26	54.6	4	RP
MWN9L2	989.7	1.02	55.3	994.1	1.28	39.0	4	LM
NL2EWL	1,001.7	1.24	34.4	1,001.7	1.45	34.4	1	XX
P1DR3R	990.3	1.03	79.7	990.3	1.20	79.7	1	LL
PMARB2	956.2	0.41	78.0	924.1	-0.27	81.7	2	ER
Q9SCTT	857.7	-1.38	93.0	914.3	-0.48	74.6	3	TR
RT6T9T	1,023.8	1.64	22.4	972.6	0.81	43.7	4	TC
T6SB4E	875.1	-1.06	48.8	887.3	-1.08	43.3	4	LO
TGGFTC	907.1	-0.48	106.1	897.3	-0.86	58.8	4	EX
VYZW9E	890.0	-0.79	42.5	923.4	-0.28	49.8	3	LL
W7AG8U	932.8	-0.01	57.3	938.5	0.05	55.5	2	ES
WXCBYU	865.2	-1.24	41.6	695.9	-5.32X	31.7	4	TS
Y6Y7W1	849.8	-1.52	44.7	852.9	-1.85	43.8	4	XX
ZWP9JG	862.2	-1.30	48.5	862.5	-1.63	47.1	4	LO

Consensus (All Labs) Results

Month Mean	933.59	Grand Mean	936.18
Avg SDr	61.62	Avg SDr	57.75
SD btwn Labs	55.08	SD btwn Labs	45.14
Labs Incd	26	Labs Incd	25

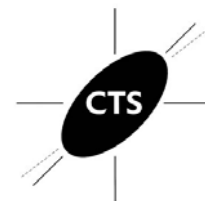
Containerboard Interlaboratory Testing Program
Analysis 201
Top to Bottom Box Compression Strength, Corrugated Boxes - BOX3
TAPPI Official Test Method T804



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	(TO) - Tinius Olsen Model not specified
(TR) - Toyo Seiki Model RCT-5TU	(TS) - Tinius Olsen Model CTM
(XX) - Instrument make/model not specified by lab	

Containerboard Interlaboratory Testing Program
Analysis 202
Edgewise Compressive Strength, Corrugated board - ECT2
TAPPI T811, T838 and T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
19BRU1	68.2	1.70	1.3	63.5	0.84	1.9	4	TD
1Q578Y	59.7	-0.31	3.4	58.3	-0.65	3.7	4	TB
399XRR	58.8	-0.53	1.4	60.2	-0.10	1.9	4	LX
3XNP16	62.5	0.34	6.9	64.0	1.00	4.7	3	EN
4V6VNP	63.2	0.51	1.7	61.4	0.24	1.6	4	EM
6118BB	69.6	2.03 *	2.2	64.3	1.06	2.3	4	EM
65H2A3	64.9	0.92	1.9	63.5	0.84	2.1	4	TM
8K22WD	60.5	-0.13	3.2	58.1	-0.71	2.8	4	EM
ARR136	61.7	0.15	0.3	62.2	0.47	0.6	4	TC
AT8GZS	60.4	-0.15	2.3	61.3	0.21	1.9	4	TC
BE8F12	58.3	-0.65	2.8	61.3	0.21	2.4	4	LC
C5RVUC	61.2	0.04	2.4	60.4	-0.05	2.2	4	LX
DETR9M	56.1	-1.18	2.2	56.1	-1.28	2.2	1	EM
DH4954	50.0	-2.63 *	2.4	51.7	-2.53*	2.4	4	LC
E6GM59	66.6	1.31	2.3	64.1	1.00	2.0	4	EM
ESQA5R	59.1	-0.46	1.7	58.6	-0.57	2.2	4	XX
F9Q7W8	60.8	-0.07	1.4	59.6	-0.26	1.4	4	TC
FBEBTL	57.1	-0.94	3.0	57.1	-0.99	3.0	1	TD
G3WZVS	59.7	-0.32	1.9	56.5	-1.15	2.7	3	LC
GA84NY	54.4	-1.57	1.3	54.4	-1.76	1.3	1	EM
HSQ1KR	62.9	0.44	2.5	62.8	0.65	2.1	4	EM
J71M5K	62.4	0.33	2.7	62.1	0.45	3.3	4	LC
J7YEZ1	61.3	0.07	1.7	62.7	0.63	2.1	3	LD
NDTJEZ	60.5	-0.13	2.5	59.1	-0.43	2.1	4	TL
NXNE5U	62.3	0.31	3.8	63.1	0.73	3.4	3	LC
RB92NQ	65.0	0.94	3.8	65.7	1.47	3.1	4	LC
RBUDTQ	60.2	-0.21	2.9	59.6	-0.26	2.5	4	LC
RP7HDT	63.2	0.51	3.5	63.8	0.94	2.9	4	LC
SCSG2C	64.2	0.74	0.7	63.5	0.85	1.4	4	TA
T6T8QW	47.5	-3.23 X	1.6	47.4	-3.76X	2.3	4	CT
V3UR81	65.5	1.07	2.5	64.1	1.02	3.2	4	TC
W1WLRS	62.2	0.27	2.7	62.1	0.45	2.8	4	EN
WYFCET	63.5	0.59	1.9	62.2	0.48	2.1	4	LX
XDVS4A	61.4	0.09	4.2	61.0	0.12	3.2	4	EN
YQZENS	63.6	0.61	2.6	61.3	0.22	2.5	4	LX
YVPFLD	63.8	0.67	1.6	62.5	0.55	3.4	4	TD

Containerboard Interlaboratory Testing Program
 Analysis 202
Edgewise Compressive Strength, Corrugated board - ECT2
 TAPPI T811, T838 and T839



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
ZKXFBU	51.8	-2.19 *	3.6	52.0	-2.45*	3.6	4	WK
ZTC3GH	63.2	0.52	1.6	64.1	1.02	1.9	3	LC
ZXH5ZY	59.6	-0.34	3.0	59.4	-0.33	2.7	3	TD
ZZR48M	51.2	-2.34 *	3.2	53.8	-1.94	2.6	4	TC

Consensus (All Labs) Results			
Month Mean	61.03	Grand Mean	60.56
Avg SDr	2.73	Avg SDr	2.58
SD btwn Labs	4.20	SD btwn Labs	3.49
Labs Incd	39	Labs Incd	39

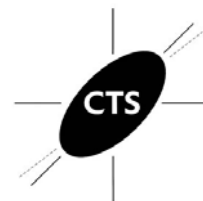
ECT Results by Methodology (as reported by laboratory)

Test Methodology	Sample ECT2		
	Group Mean	Btwn Lab STD	Labs included
TAPPI T811 Wax Edge (1)	62.15	1.85	3
TAPPI T839 Clamp (3)	61.60	2.97	32

ECT Results in pounds force / inch.

Instrument Code List as Reported by the Labs

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



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	
16EN2Z	105.5	106.2	108.5	104.9	106.3	1.14	9.1	1.6	105.5	0.96	8.5	2.1	16	AX
193VSN	102.8	101.0	109.7	102.6	104.0	0.58	12.3	3.9	105.9	1.09	10.9	3.3	16	LA
1XB8XD	99.2	97.8	No Data	No Data	98.5	-0.81	7.8	1.0	101.7	-0.24	9.7	4.2	14	LZ
2CB8U2	105.9	104.5	104.0	107.7	105.5	0.95	10.1	1.7	103.6	0.37	10.9	3.2	12	AH
34HUGZ	100.9	No Data	No Data	100.0	100.5	-0.32	9.8	0.6	100.5	-0.64	9.8	0.6 L	2	LC
3YNNEC	109.8	110.4 L	111.5 L	112.0	111.0	2.31 *	4.8	1.0	108.7	1.99	5.0	1.6	16	TX
4FPRVG	99.8	108.1 L	98.4	92.2	99.6	-0.52	9.8	6.5	100.3	-0.68	9.7	4.5	12	AX
4XZL6A	No Data	103.5	102.4	99.1	101.7	-0.02	10.9	2.3	103.7	0.39	9.3	2.5	11	LB
5BDYG2	101.8	99.8	107.6	100.1	102.3	0.15	10.5	3.6	103.4	0.29	9.6	3.3	16	LJ
5QQDND	109.8 L	110.1 L	107.5	108.5 L	109.0	1.82	4.4	1.2	108.1	1.79	5.0	1.5	15	XX
5YU7DC	No Data	103.7	103.4	101.4	102.8	0.28	11.8	1.3	102.6	0.05	10.3	4.0	14	LC
6PN4UU	93.3	96.8	89.3 *	No Data	93.1	-2.15 *	7.4	3.8	93.1	-2.96 X	7.4	3.8	3	AH
6TKNXD	102.7	106.0	113.2 *	104.2	106.5	1.20	11.6	4.7	106.3	1.22	10.0	4.3	16	LA
7PAPJS	106.2	100.2	102.0	94.1	100.6	-0.27	8.8	5.0	103.7	0.40	8.8	4.8	16	LC
7U51RF	97.9	91.9	93.8	86.3 X	92.5	-2.31 *	8.3	4.8	100.2	-0.74	9.5	6.3	16	AH
7YZZZK	103.1	95.4	94.6	113.4 *	101.6	-0.02	13.3	8.7 H	104.1	0.52	12.5	5.4	14	LA
8CZ1D6	98.8	101.0	96.9	97.4	98.5	-0.80	9.9	1.9	98.9	-1.13	10.0	3.4	16	LA
8Q1TM4	102.6	98.9	104.7	98.2	101.1	-0.15	11.4	3.1	104.3	0.57	10.9	4.1	16	XX
8TZLLN	102.0	103.5	100.3	103.3	102.2	0.13	10.7	1.5	100.9	-0.51	10.5	4.0	16	TB
9C4S5E	102.5	101.3 H	102.8	99.9 L	101.6	-0.02	11.4	1.3	98.8	-1.16	11.3	4.7	16	XX
9FJ8FE	101.6	99.6 H	105.2	99.3	101.4	-0.07	11.9	2.7	99.2	-1.03	10.3	4.0	16	LA
9KW6TT	104.0	105.5	99.1	101.5	102.5	0.20	11.3	2.8	99.7	-0.87	11.5	4.8	16	AX
9SCKUD	101.9	102.7	96.0 L	104.5	101.3	-0.11	5.9	3.7	103.1	0.20	7.6	3.5	16	TC
9YK1BE	97.0 L	97.8	95.0 L	98.4 L	97.0	-1.17	5.4	1.4	98.7	-1.20	7.2	3.2	16	AH
A83K29	95.9	92.2	97.7 L	98.8	96.2	-1.39	10.2	2.9	96.4	-1.94	9.1	3.0	16	TB
BFRQ74	107.3	103.8	105.3	106.3	105.6	0.98	10.4	1.5	105.5	0.95	11.0	2.7	16	AA
BGY5DA	101.6	100.7	107.8 H	107.4	104.4	0.66	12.3	3.8	105.9	1.08	12.3	5.0	16	LA
CGRGF3	106.6	104.2	107.2	103.5	105.4	0.92	9.6	1.8	105.7	1.03	10.9	3.9	16	AH
CQEFRG	97.0	103.2	99.5	102.1	100.5	-0.32	8.1	2.8	102.1	-0.12	11.0	3.1	16	AH
CXV1S7	101.4	101.7	101.8	101.9	101.7	0.00	6.3	0.2 L	101.5	-0.31	6.5	0.8	16	AH
DPZR51	No Data	No Data	102.4	108.0	105.2	0.86	12.8	4.0	105.2	0.85	12.8	4.0	2	AX
EHRBWJ	95.2	98.0	96.5	100.8	97.6	-1.02	11.5	2.4	97.9	-1.46	10.3	2.6	16	LA
GFEBR3	101.9	No Data	98.7	106.8	102.5	0.19	10.6	4.1	99.4	-0.97	9.4	4.8	7	TB
GVJD3A	No Data	98.3	100.6	No Data	99.4	-0.57	11.0	1.6	100.5	-0.63	9.4	4.1	6	TB

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



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
HAVPCV	108.6	104.4	106.6	100.0	104.9	0.80	12.2	3.7	103.5	0.32	11.5	3.6	16	LA
JYY1Y7	102.2	94.6	101.4	105.1	100.8	-0.23	12.3	4.4	102.1	-0.12	11.0	3.0	16	LZ
K4SBRB	100.0	98.5	100.6	100.5	99.9	-0.46	10.4	1.0	99.6	-0.90	10.1	3.2	16	LA
LJBQ52	101.0	100.9	103.3	104.0	102.3	0.14	9.7	1.6	102.3	-0.07	9.7	1.6	4	XX
LU431Z	108.2	107.9	103.8	106.4	106.6	1.21	12.3	2.0	106.8	1.38	10.5	2.6	14	TB
MID1KC	No Data	No Data	No Data	105.4	105.4	0.92	11.1	0.0 L	105.4	0.92	11.1	0.0 L	1	TC
MW7Q3Q	95.9	96.0	92.2	92.3	94.1	-1.91	10.4	2.1	96.6	-1.86	9.7	3.3	16	LJ
NE444F	105.5	105.0	107.9	104.0	105.6	0.97	10.4	1.7	105.0	0.79	8.7	2.3	16	LZ
PDC965	103.8	105.8	101.7	103.0	103.6	0.47	10.9	1.7	106.8	1.38	11.5	4.7	16	TB
Q4R8QV	100.5	100.8	97.9	103.9	100.8	-0.24	13.9	2.5	100.0	-0.79	10.9	3.2	16	AH
RTSYRC	105.1	104.9	106.4	106.9	105.8	1.03	13.0	1.0	105.9	1.08	11.2	2.5	12	TB
RWATU5	105.5	97.4	94.0	97.2	98.5	-0.80	7.4	4.9	100.7	-0.56	11.2	4.4	16	AH
S2CL5L	110.8*	105.8	102.6	100.2	104.9	0.78	6.5	4.6	102.7	0.08	6.1	4.5	15	AH
SFZRAM	98.6	108.6	No Data	No Data	103.6	0.48	9.2	7.1	101.4	-0.34	10.0	3.6	14	LZ
SMUXRG	97.6	99.7	97.4	90.5*	96.3	-1.36	9.1	4.0	104.5	0.63	9.7	16.8 H	15	LC
SVYUD7	107.8	93.1	96.0	94.9	98.0	-0.94	11.5	6.7	99.5	-0.94	9.4	4.2	12	LA
U4CC7J	104.6	101.7	103.4	103.7	103.3	0.40	9.1	1.2	103.4	0.28	9.8	1.0	16	LA
UMCCJG	90.3*	94.3	93.9	91.2*	92.4	-2.33*	9.8	2.0	95.1	-2.32*	9.5	3.8	16	LA
VJP5ST	98.7	94.1	99.5	112.9	101.3	-0.10	8.7	8.1 H	103.5	0.31	9.8	5.9	16	TB
VKEY8Y	No Data	102.4	105.8	111.1	106.4	1.18	10.8	4.4	105.8	1.04	9.8	3.3	14	AA
WGZ1VF	103.0	107.3	108.3	109.8	107.1	1.34	10.5	2.9	107.4	1.57	10.9	4.2	15	TB
XA7GRX	97.9	99.2	98.6	101.6	99.3	-0.60	10.2	1.6	99.9	-0.83	11.2	3.4	16	LA
XGWXSG	96.9	92.5	99.8	100.7	97.5	-1.07	8.3	3.7	98.9	-1.13	9.8	3.9	16	LC

Consensus (All Labs) Results													
Wk Mean	101.93	101.18	101.59	102.37	Month Mean	101.72				Grand Mean	102.48		
Avg SDr	10.16	9.95	10.24	10.37	Avg SDr	10.20				Avg SDr	10.03		
SD btwn Labs	4.42	4.72	5.21	5.32	SD btwn Labs	3.99				SD btwn Labs	3.15		
Labs Includ	51	53	53	52	SD btwn Wks	3.54				SD btwn Wks	4.31		
Labs Exclud	0	0	0	1	Labs Includ	57				Labs Includ	56		
Labs not rcvd	6	4	4	4									

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



Instrument Code List as Reported by the Labs

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

Containerboard Interlaboratory Testing Program
Analysis 206

Bursting Strength (Mullen), 69 lb Linerboard - 69Y1
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
155ED8	147.7	146.5	151.3	145.2*	147.7	-1.80	17.1	2.6	162.6	0.36	20.9	12.5 H	12	LC
1CFBWE	171.1	169.7	170.0	170.5	170.3	1.42	13.0	0.6 L	168.1	1.21	14.9	3.6	12	TX
1VA4GC	150.3	147.0	150.1	151.7	149.8	-1.50	18.0	2.0	151.6	-1.36	19.1	4.8	8	LC
2AQFVS	No Data	159.8	163.7	161.8	161.8	0.20	22.5	2.0	163.6	0.51	21.1	3.7	10	AA
32ESXQ	167.7	169.2	160.0	171.2	167.0	0.95	20.3	4.9	167.8	1.16	22.2	7.8	12	TB
33ERBX	152.5	154.0	150.4	No Data	152.3	-1.15	22.6	1.8	152.3	-1.25	22.6	1.8	3	AH
37A46E	No Data	169.1	164.4	165.3	166.3	0.84	21.4	2.5	159.9	-0.06	18.6	7.2	9	LC
3FC449	162.2	159.7	161.8	160.5	161.1	0.10	16.3	1.2	161.3	0.15	18.8	1.6	12	LA
4RTHYH	173.2	166.4	163.2	164.3	166.8	0.91	19.7	4.5	168.8	1.31	22.0	4.7	12	LA
4SNV9U	163.6	161.3	155.2	166.1	161.5	0.17	22.2	4.7	163.3	0.46	22.3	4.4	12	LA
4Z8TBP	160.2	163.7	161.3	164.9	162.5	0.31	22.6	2.2	161.5	0.18	22.5	3.1	12	AH
52HX2J	165.5	168.5	164.8	168.3	166.8	0.91	21.2	1.9	166.1	0.90	24.0	5.1	12	XX
5RRPV9	155.3	162.8	166.0	159.3	160.8	0.07	17.6	4.6	157.7	-0.41	20.1	5.0	12	LA
63LC8N	165.7	166.8	166.2	159.6	164.6	0.60	20.4	3.3	163.9	0.55	20.9	3.3	12	AH
6GPJL7	No Data	157.1	151.2	158.8	155.7	-0.66	16.6	4.0	156.7	-0.56	16.6	4.2	8	LB
7APHBJ	No Data	155.4	151.1	No Data	153.2	-1.02	21.1	3.0	152.4	-1.23	17.3	7.0	5	TB
7T3XKD	151.5	162.0	155.6	160.9	157.5	-0.41	16.8	4.9	159.2	-0.18	16.7	3.9	8	AX
8HK7LD	162.1	164.9	164.9	164.0	164.0	0.51	23.4	1.3	164.0	0.57	23.4	1.3	4	XX
8MV8JC	168.2	164.3	166.6	162.6	165.4	0.72	13.9	2.5	154.2	-0.96	15.2	10.4 H	12	TB
8N1CVU	164.2	167.8	165.7	174.8	168.1	1.10	26.3	4.7	163.9	0.55	25.1	9.2	12	AX
8UJDP7	169.5	162.8	159.8	162.8	163.7	0.47	19.6	4.1	160.1	-0.04	19.6	4.0	12	AA
92DBWC	164.1	163.7	156.4	150.5	158.7	-0.24	20.0	6.5	156.3	-0.63	20.6	5.2	12	LA
9BVW33	169.6	161.0	156.9	157.2	161.2	0.11	23.0	5.9	163.7	0.52	22.7	4.4	12	LA
AEZ228	160.2	159.3	162.0	160.2	160.4	0.01	20.4	1.1	162.1	0.27	23.4	4.4	12	AH
AYX2Q1	167.0	174.7	178.7*	174.7	173.8	1.90	19.2	4.9	175.5	2.36*	19.3	3.7	9	TB
C8BYLH	160.7	146.4	151.8	154.7	153.4	-0.99	19.0	6.0	157.7	-0.41	19.0	5.3	12	LA
DHDFUZ	152.6	165.0	No Data	No Data	158.8	-0.22	21.0	8.8	156.4	-0.62	20.3	6.1	10	LZ
FGMTXF	162.8	160.8	161.7	156.5	160.5	0.01	19.0	2.8	159.9	-0.07	22.3	3.1	12	TB
GE7H83	170.9	165.8	161.3	159.9	164.5	0.58	19.5	5.0	161.1	0.12	17.9	5.8	10	TB
GPA59U	147.4	145.9*	152.7	149.5	148.9	-1.63	19.1	2.9	147.2	-2.05*	19.7	10.5 H	12	LA
GV4M1Y	163.8	153.9	152.7	151.4	155.5	-0.70	22.8	5.7	154.7	-0.88	19.4	4.1	8	LA
HNTEG2	169.7	168.6	174.3	174.1	171.7	1.61	24.2	3.0	171.2	1.70	23.1	3.0	12	LA
HSJYC5	146.1	144.2*	153.8	145.9*	147.5	-1.83	21.0	4.3	154.8	-0.86	20.9	7.3	12	AH
MFNHDC	166.3	171.3	173.0	170.9	170.4	1.42	13.7	2.9	170.2	1.53	13.1	3.6	12	AX

Containerboard Interlaboratory Testing Program
 Analysis 206
Bursting Strength (Mullen), 69 lb Linerboard - 69Y1
 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
MTJJC1	156.4	166.2	164.3	163.9	162.7	0.33	21.4	4.3	160.9	0.08	21.8	5.6	12	TB
NCHVY9	147.0	153.4	149.2	149.0	149.7	-1.52	13.0	2.7	151.3	-1.40	13.8	4.2	12	XX
NK2EJE	165.6	No Data	No Data	162.6	164.1	0.53	19.9	2.1	164.1	0.59	19.9	2.1	2	LC
NVR3U9	157.0	157.7	153.3	152.2	155.1	-0.75	18.5	2.7	153.8	-1.02	18.7	2.5	12	LA
P97BFY	166.5	161.4	164.2	161.7	163.5	0.44	14.4	2.4	164.1	0.59	13.4	11.4 H	12	AH
Q8FHK8	No Data	No Data	No Data	168.6	168.6	1.17	21.3	0.0 L	168.6	1.28	21.3	0.0 L	1	TC
QP9HK1	150.2	156.7	159.1	157.4	155.8	-0.64	18.7	3.9	159.8	-0.09	19.4	4.4	12	LZ
RCGC7M	160.8	165.0	No Data	No Data	162.9	0.36	21.4	3.0	158.6	-0.27	18.0	3.9	10	LZ
RDXSYN	No Data	No Data	147.1	158.8	153.0	-1.05	21.4	8.3	155.4	-0.76	19.9	7.3	3	AX
RYPGAN	158.4	160.3	164.0	162.1	161.2	0.12	21.6	2.4	160.8	0.08	20.4	5.9	12	AH
TGC235	145.9	166.3	147.5	147.8 L	151.9	-1.21	12.7	9.7 H	151.2	-1.41	12.4	6.4	12	LA
TSHB49	159.5	163.5	168.0	163.3	163.6	0.46	19.3	3.5	161.6	0.19	18.8	6.7	12	AH
U665F8	153.9	175.2	172.6	175.2	169.2	1.25	20.5	10.3 H	169.3	1.40	21.1	6.7	8	TB
UK2JJJ	149.4 L	150.8	153.8 L	162.0 L	154.0	-0.90	8.3	5.6	157.2	-0.48	8.9	4.9	12	AH
VVXV9G	154.0	170.0	168.2	160.3	163.1	0.39	21.5	7.4	161.2	0.14	19.8	6.0	12	LA
WF3U4N	160.4 L	160.2 L	161.9	160.6	160.8	0.06	12.7	0.8 L	162.1	0.27	16.5	1.3	12	AH
WR4U16	166.8	161.7	163.6	168.1	165.1	0.67	21.4	2.9	163.0	0.42	17.7	3.1	12	LZ
WZWEDE	147.8	152.5	143.9	156.9	150.3	-1.44	17.4	5.6	146.4	-2.17*	18.1	8.2	12	LJ
X4FTT1	171.4 H	169.5	172.5	166.2	169.9	1.35	24.5	2.8	175.0	2.28*	28.7	7.3	12	LC
XEWLB8	168.7	169.3	165.1	163.7	166.7	0.90	24.1	2.7	162.1	0.28	23.6	5.4	12	LJ
XLQV6L	155.8	No Data	152.0	155.2	154.3	-0.86	16.9	2.0	156.6	-0.59	18.0	8.4	7	TB
Z6KGPN	154.9	166.2	164.9	160.8	161.7	0.19	21.8	5.1	158.5	-0.28	15.8	4.2	12	LA
ZBW9A7	138.7* L	148.0 L	143.0* L	138.3 XL	142.0	-2.61*	7.7	4.5	147.6	-1.98	11.3	7.3	12	TC

Consensus (All Labs) Results													
Wk Mean	159.63	161.39	159.94	161.04	Month Mean	160.37				Grand Mean	160.33		
Avg SDr	19.60	19.25	19.29	19.89	Avg SDr	19.58				Avg SDr	19.66		
SD btwn Labs	8.36	7.66	8.18	7.40	SD btwn Labs	7.04				SD btwn Labs	6.43		
Labs Includ	51	53	53	52	SD btwn Wks	4.43				SD btwn Wks	5.86		
Labs Exclud	0	0	0	1	Labs Includ	57				Labs Includ	57		
Labs not rcvd	6	4	4	4									

Containerboard Interlaboratory Testing Program
Analysis 206
Bursting Strength (Mullen), 69 lb Linerboard - 69Y1
TAPPI Official Test Method T807



Instrument Code List as Reported by the Labs

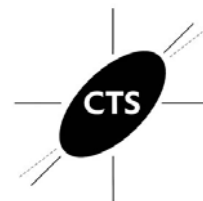
(AA) - Perkins Model A	(AH) - Perkins Model AH
(AX) - Perkins Mullen Tester (model not specified)	(LA) - L & W Bursting Strength Tester
(LB) - L & W Burst-O-Matic	(LC) - L & W Autoline
(LJ) - L & W Bursting Strength Tester J-Type	(LZ) - L & W (model not specified)
(TB) - TMI Monitor/Burst 1000	(TC) -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



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	
1D1FTR	94.9	91.7	92.1	94.2	93.2	0.27	4.2	1.6	93.8	0.49	4.4	2.5	16	LC
1DNNBV	83.0	81.8*	83.1*H	82.8*	82.7	-2.32*	7.0	0.6	82.7	-2.13*	7.0	0.6 L	4	XX
1SEL6L	98.2	98.8	95.7	100.5	98.3	1.52	4.3	2.0	97.5	1.38	4.2	3.0	16	LC
23G62B	No Data	97.1	100.3	98.8	98.7	1.62	4.7	1.6	97.1	1.28	4.3	1.7	11	LC
25CGGD	90.6	91.2	91.6	91.6	91.2	-0.22	4.5	0.5 L	91.9	0.05	4.1	1.3	16	LC
2TCSZV	97.7 H	92.4	86.5	86.4	90.8	-0.34	6.0	5.4	93.9	0.53	6.6	5.2	12	LC
3S9ERH	95.6	94.3	99.6	100.1	97.4	1.30	4.0	2.8	95.2	0.84	4.2	3.1	16	LD
4HDG4U	95.5	90.8	85.6	85.4	89.3	-0.69	6.4	4.8	93.2	0.36	6.8	4.7	12	LC
6QVJ11	91.6	92.3	91.6	96.0	92.9	0.18	5.1	2.1	89.1	-0.62	6.1	3.5	16	EM
78KLYH	91.0	93.9	93.5	91.2	92.4	0.07	3.7	1.5	90.6	-0.25	3.6	2.1	16	EN
7F5ZDE	95.5	93.5	92.8	91.6	93.4	0.30	4.5	1.6	93.4	0.41	4.2	2.0	16	LC
7LKMBJ	82.4	82.5	90.0	86.0	85.2	-1.69	3.6	3.6	84.3	-1.76	3.3	2.9	16	TM
8H1S8R	92.9	101.4	94.4	97.0	96.4	1.06	3.3	3.7	96.4	1.11	3.3	3.7	4	LC
8QU9EM	91.5	85.0	90.6	89.4	89.1	-0.73	4.2	2.9	89.1	-0.61	4.2	2.9	4	TB
9QRVHD	96.0	97.8	94.9	94.1	95.7	0.88	3.6	1.6	95.2	0.83	3.9	1.4	16	EM
AW1VY8	89.8	89.9	89.1	89.9	89.7	-0.60	4.5	0.4 L	89.7	-0.46	5.0	0.8	16	LC
BUGC13	No Data	No Data	96.0	95.5	95.8	0.89	4.3	0.4 L	95.8	0.96	4.3	0.4 L	2	EX
BVWRN4	98.5	98.6	94.8	99.8	97.9	1.42	4.7	2.2	89.0	-0.64	4.7	9.7 H	8	MB
BZV588	88.0 H	85.0 H	84.5 H	105.0*H	90.6	-0.37	14.5	9.7 H	90.1	-0.37	14.2	10.7 H	16	IM
CPP6W7	99.4	121.9 X	97.5	100.9 L	104.9	3.14 X	4.6	11.4 H	99.3	1.80	5.6	7.6 H	12	LC
F3RYT7	88.1	84.2	86.7	85.6	86.2	-1.46	4.8	1.7	87.6	-0.98	4.5	2.4	16	LZ
FWZ68M	94.5	96.2	94.4	93.5	94.7	0.62	5.1	1.1	94.8	0.73	4.8	1.8	16	LD
G3DJH5	89.7	91.2	92.8	88.8	90.6	-0.36	4.2	1.8	88.8	-0.67	4.1	3.2	16	EM
GFHUXD	97.5	96.7	98.6	99.9	98.2	1.49	4.2	1.4	97.3	1.31	4.3	1.6	16	LC
GG2GSF	97.4	94.8	100.4	100.1	98.2	1.49	4.3	2.6	96.2	1.07	4.1	2.6	16	XX
GR4B5Y	86.1	86.9	89.9	84.4	86.8	-1.30	4.4	2.3	87.1	-1.09	5.3	2.1	16	LD
H1FTCP	98.8	96.3	91.3	91.4	94.5	0.57	4.6	3.7	95.7	0.94	4.3	2.5	16	LC
H99XMC	98.8	98.5	95.8	96.0	97.3	1.27	3.9	1.6	96.0	1.01	4.0	1.5	16	LD
JDLNKX	No Data	94.9	94.9	87.0	92.3	0.04	3.8	4.6	91.5	-0.06	4.3	3.1	14	LC
JQTJHH	100.6	102.0	98.4	96.2	99.3	1.76	4.1	2.5	96.4	1.11	4.0	3.4	13	MB
K2GE28	87.0	90.9	87.0	87.1	88.0	-1.01	3.8	1.9	87.7	-0.94	4.2	1.9	16	EM
K3CY1T	92.7	93.2	93.0	No Data	93.0	0.21	3.9	0.3 L	92.8	0.26	4.0	1.6	15	LC
K5L2WQ	86.4	86.7	89.4	89.1	87.9	-1.04	3.6	1.6	88.1	-0.86	3.1	1.2	15	TC
K8B6U3	93.6	91.9	93.8	95.0 H	93.6	0.36	6.6	1.3	88.6	-0.74	5.6	5.7	16	LZ



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	
KTW1MA	96.0	95.5	99.1	95.8	96.6	1.10	3.7	1.7	95.3	0.85	5.2	3.1	16	LC
LHZUH9	84.6	84.9	92.6	88.0	87.5	-1.13	4.0	3.7	84.8	-1.63	3.6	2.7	16	LD
LRHZSN	85.5	85.3	92.8	94.4	89.5	-0.64	5.1	4.8	84.4	-1.72	4.0	4.0	16	EN
MEJKBX	84.5	86.5	84.5 L	82.9	84.6	-1.85	3.0	1.5	84.5	-1.70	3.3	2.2	16	TQ
MSS9HZ	97.3 L	94.8	92.8	95.3	95.1	0.72	2.8	1.8	94.2	0.58	3.9	2.1	16	LC
MY9XW2	90.8	92.1	88.7	89.3	90.2	-0.46	3.5	1.5	89.6	-0.50	3.9	1.7	16	LD
N55NTR	90.3	92.1	87.9	91.6	90.5	-0.41	4.1	1.9	88.4	-0.78	4.0	3.1	15	LC
NXGHNW	94.7	93.4	94.5	93.8	94.1	0.49	3.8	0.6	91.5	-0.04	5.8	10.7 H	16	LZ
NYJTL7	91.9	95.7	96.8	95.4	95.0	0.70	5.4	2.1	93.7	0.46	5.0	4.8	8	LC
P8ZZVG	92.5	91.5	93.1	90.2 L	91.8	-0.07	3.9	1.3	92.8	0.25	4.1	2.8	15	MB
PBLQBD	93.7	88.0	91.5	93.9	91.8	-0.08	3.3	2.7	92.6	0.21	4.5	2.2	12	TC
Q6J4QA	86.8	84.5	87.3	No Data	86.2	-1.45	3.1	1.5	86.2	-1.30	3.1	1.5	3	EM
QCM7DN	84.7	90.1	No Data	No Data	87.4	-1.16	4.3	3.8	89.1	-0.62	5.4	2.9	14	LC
QR5XA5	94.3	94.3	94.8	94.5	94.5	0.58	4.5	0.3 L	94.6	0.68	3.9	1.6	16	LC
RPQYD8	92.2	90.7	91.3	89.1	90.8	-0.32	3.3	1.3	90.0	-0.40	3.2	1.3	16	LZ
SA5Z3Q	92.1	No Data	91.4	93.8	92.4	0.07	3.6	1.2	92.3	0.14	4.0	1.0	5	LD
STHFBK	94.1 H	101.9	101.0	95.3	98.1	1.46	6.0	3.9	99.8	1.92	3.5	6.7 H	15	LC
SUHEPR	89.9	95.9	100.1	93.5	94.9	0.67	3.5	4.3	92.9	0.28	3.8	3.2	16	LC
T3H7DJ	94.1	92.7	92.4	92.3	92.9	0.18	3.9	0.8	92.4	0.17	3.9	0.9	16	LC
T9BBH9	92.0	94.4 H	94.8	96.2	94.4	0.55	5.2	1.7	92.2	0.11	4.8	3.4	12	LC
UESUTH	87.3	90.2	98.5	90.7	91.7	-0.11	5.1	4.8	90.8	-0.20	4.1	3.1	16	TD
UFMKYW	105.7*	106.0*	104.9*	No Data	105.5	3.29 X	5.3	0.6 L	102.0	2.44*	4.6	3.6	9	LC
UXJ2UT	90.5	No Data	91.4	90.6	90.8	-0.32	4.4	0.5 L	91.6	-0.03	4.1	1.1	11	TD
VKCMPU	95.3	92.2	97.5	97.2	95.6	0.84	4.7	2.4	96.5	1.13	4.6	2.5	16	LC
WKU1QC	85.4	83.8	85.0	84.1	84.6	-1.85	3.2	0.8	84.6	-1.68	3.2	0.8	4	XX
WMB3W3	90.1	88.9	89.0	92.6	90.1	-0.48	4.7	1.7	90.1	-0.37	4.7	1.7	4	EX
WMXCCZ	80.7*	87.2	87.9	91.3	86.8	-1.32	4.3	4.4	86.3	-1.28	5.0	2.8	16	TX
XF4J65	92.8	92.2	91.2	95.0	92.8	0.17	4.2	1.6	92.6	0.21	4.5	3.0	16	LC
XN1AFJ	98.1	No Data	77.5 X	No Data	87.8	-1.06	6.4	14.6 H	85.6	-1.45	6.5	11.0 H	3	MB
XN4EB3	96.1	95.8	93.0	90.5	93.8	0.42	4.0	2.6	94.3	0.61	3.8	1.9	16	TD
Y37F53	89.9	92.1	92.4	92.3	91.7	-0.11	3.3	1.2	90.9	-0.18	4.5	3.0	16	LX
YEKF2W	100.0	98.6	97.1	100.0	98.9	1.67	5.3	1.4	97.3	1.33	4.5	2.2	16	LC
YTYR6K	86.0 L	86.3	86.2	86.7 L	86.3	-1.43	2.2	0.3 L	86.3	-1.28	2.2	0.3 L	4	XX

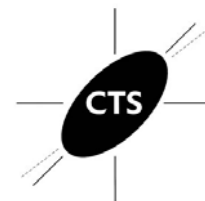


WebCode	Weekly Means				Monthly Results				Cumulative Results				Inst	
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk		Wks
ZLF8GY	No Data	No Data	No Data	89.8	89.8	-0.57	4.1	0.0 L	89.8	-0.45	4.1	0.0 L	1	TB

Consensus (All Labs) Results									
Wk Mean	92.24	92.25	92.80	92.64	Month Mean	92.12	Grand Mean	91.70	
Avg SDr	4.75	4.67	4.75	4.69	Avg SDr	4.72	Avg SDr	4.77	
SD btwn Labs	5.10	5.17	4.63	4.89	SD btwn Labs	4.07	SD btwn Labs	4.23	
Labs Includ	64	62	65	63	SD btwn Wks	3.25	SD btwn Wks	3.82	
Labs Exclud	0	1	1	0	Labs Includ	66	Labs Includ	68	
Labs not rcvd	4	5	2	5					

Instrument Code List as Reported by the Labs

- | | |
|---|--|
| (EM) - Emerson 1200 | (EN) - Emerson 2200 |
| (EX) - Emerson (model not specified) | (IM) - Instron 4486 |
| (LC) - L & W Crush Tester 48 | (LD) - L&W Crush Tester 248 |
| (LX) - L & W 506 | (LZ) - L & W Crush Tester (model not specified) |
| (MB) - Messmer Buchel K440 | (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	
12D6LD	139.7	141.1	144.5	144.5	142.4	-1.02	4.2	2.4	143.4	-0.52	4.7	3.1	12	LC
16UHV1	152.1	149.1	146.6	144.7 L	148.1	0.26	4.6	3.2	150.5	1.21	7.0	4.1	12	TC
18WC7Y	143.8	139.4	143.4	No Data	142.2	-1.07	6.1	2.4	142.2	-0.82	6.1	2.4	3	EM
1KSL5T	148.8 H	147.5	150.1	146.5	148.2	0.28	7.9	1.6	144.7	-0.20	7.0	4.3	8	LC
3CDPUR	149.2	149.4	147.9	149.3	149.0	0.45	7.0	0.7	150.9	1.30	6.4	3.3	12	LC
3W89SA	147.2	149.8	149.3	No Data	148.8	0.41	4.2	1.4	144.9	-0.17	4.3	2.8	11	LC
44V96F	160.0 *	178.0 X	161.8 *	159.7 *	164.9	4.04 X	6.3	8.8 H	152.6	1.74	8.1	14.8 H	8	LZ
4KLAZ1	144.3	148.6	155.4	144.1	148.1	0.25	4.5	5.3	146.5	0.22	8.4	4.9	12	MB
5SCUED	155.7	155.7	155.1	157.2	155.9	2.02 *	4.8	0.9	152.8	1.78	15.1	9.7 H	12	LZ
68BUKD	144.8	146.2 L	144.4	148.5	146.0	-0.22	3.8	1.9	147.1	0.38	4.6	2.4	12	LC
691MC5	145.1	154.0 L	150.9	149.8	149.9	0.67	4.6	3.7	142.1	-0.85	4.1	7.1	12	TD
6RJ1X2	142.7	140.3	142.4	139.5 L	141.2	-1.30	5.5	1.5	141.2	-1.07	5.5	1.5	4	XX
7HJNSD	144.2	146.0	150.1	145.3	146.4	-0.13	5.6	2.6	141.9	-0.91	5.4	4.3	12	EM
8APE56	165.1 X	160.2 *	172.2 XH	161.8 *	164.8	4.03 X	14.7	5.3	164.8	4.74 X	14.7	5.3	4	MB
8LP8V6	138.9	152.6 H	143.1	139.8	143.6	-0.76	13.1	6.2	144.3	-0.31	12.0	5.8	11	LC
8R9JDE	141.9	140.6	139.9	142.7	141.3	-1.28	4.3	1.3	142.2	-0.81	4.6	2.7	12	EN
8XJLTG	155.5	156.1 L	153.3	No Data	154.9	1.80	5.7	1.5	149.5	0.97	5.0	6.2	6	LC
91KGFV	143.2	147.8	147.8	141.6	145.1	-0.42	4.8	3.2	144.1	-0.36	6.2	3.4	8	EM
9LQ29A	146.2	145.4 L	146.5	145.5	145.9	-0.24	5.1	0.5 L	146.6	0.26	4.6	1.5	12	LC
AKCNHK	132.8 *	132.0 *	131.9 *	131.1 *	132.0	-3.39 X	4.8	0.7 L	132.0	-3.35 X	4.8	0.7 L	4	XX
AUUCZC	141.7	142.7	142.6	142.4	142.4	-1.04	6.0	0.5 L	140.9	-1.16	10.1	5.1	12	LZ
B34379	145.0	143.4	146.1	143.1	144.4	-0.58	4.9	1.4	143.7	-0.47	4.8	2.7	12	EM
CTMMBM	150.7	151.1	147.9	151.3	150.2	0.74	5.5	1.6	150.2	1.15	5.5	1.6	4	EX
D3YGMD	146.6 L	141.1	146.8	144.2	144.7	-0.52	4.2	2.7	145.7	0.05	4.9	2.5	12	LC
D3ZTG2	No Data	156.4	151.1	136.4	148.0	0.23	5.9	10.4 H	145.8	0.07	5.8	6.8	10	LC
D7VKQY	No Data	No Data	150.6	153.3 L	151.9	1.12	4.2	1.9	148.1	0.64	4.8	6.7	3	EX
E1K8WZ	162.5 *	157.1	168.8 XH	158.7	161.8	3.34 X	11.5	5.2	150.0	1.09	12.5	11.8 H	9	LD
ERVJYC	137.8	137.7 L	141.8	144.6	140.5	-1.47	4.0	3.3	141.8	-0.93	3.7	3.6	12	EM
EY9AK4	148.6 L	149.7	147.6	146.9 L	148.2	0.27	2.8	1.2	148.2	0.64	2.8	1.2	4	XX
F8TQNS	135.7	136.8	138.2	136.7	136.9	-2.28 *	6.8	1.0	137.2	-2.05 *	6.3	1.8	12	TD
G238QC	142.3 L	144.2 L	149.4	151.5	146.8	-0.03	4.2	4.3	145.4	-0.03	4.3	2.8	12	LD
GDZAAU	151.4	152.6 L	148.3	145.1	149.3	0.54	5.2	3.4	150.3	1.18	3.7	3.1	12	LC
GX66PC	144.4	141.5	140.8	142.4	142.3	-1.06	5.9	1.6	140.5	-1.25	5.5	3.3	12	TM
H3XJBM	141.6	150.4 L	156.8	156.0	151.2	0.96	6.3	7.0	150.1	1.12	5.5	4.4	12	LD

Containerboard Interlaboratory Testing Program

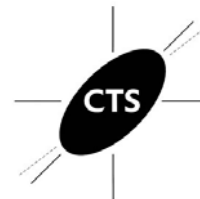
Analysis 216

Ring Crush, 69 lb Linerboard - 69Y1

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
HRTL3Z	147.6 H	149.6	147.5 H	144.0	147.2	0.05	9.5	2.3	146.0	0.10	8.7	6.2	12	LC
JPGFSH	154.5	153.6	165.6 XH	149.8	155.9	2.01 *	7.3	6.8	154.7	2.24 *	6.4	4.9	8	LC
JQDMJA	146.9	146.0	146.1	146.1	146.3	-0.16	5.0	0.4 L	144.6	-0.23	4.4	2.0	12	LC
KQSADA	150.3	149.1	144.9 L	145.4	147.4	0.10	4.1	2.7	146.0	0.11	11.9	4.8	12	LD
L4QV5X	146.2	142.2 L	141.4	144.2	143.5	-0.78	3.1	2.2	143.7	-0.46	3.7	2.4	12	LC
LGZFUA	154.6 L	146.7 L	154.1	152.2	151.9	1.11	3.4	3.6	149.1	0.88	3.9	4.7	12	XX
M8H9BK	152.3	153.0 L	152.2	138.0	148.9	0.43	4.7	7.3	148.1	0.62	4.7	5.7	12	LC
MDWZ1D	141.0	142.5	142.7	141.7 L	142.0	-1.13	4.4	0.8	140.2	-1.31	4.1	2.0	12	TD
MNBZBM	144.8	146.5 L	146.1	148.8	146.6	-0.09	3.8	1.7	144.1	-0.36	4.0	3.6	9	TC
MZV6Q4	131.6 *	133.1 *	132.3 *	134.7	132.9	-3.17 X	5.3	1.3	137.0	-2.12 *	4.5	3.3	12	TM
NPW9J1	144.8	152.7	147.2	147.3	148.0	0.23	5.0	3.3	147.3	0.42	5.0	3.2	12	LC
P4W7HJ	141.9	139.8	151.5	158.6	148.0	0.22	5.0	8.7 H	139.2	-1.56	4.9	8.6 H	12	EN
PKERUB	144.5	147.7 L	148.4	147.0 L	146.9	-0.02	4.0	1.7	143.6	-0.48	4.8	3.6	12	MB
QGAVVM	148.9	149.3	151.0	149.5	149.7	0.61	4.2	0.9	147.6	0.50	4.4	2.5	12	LC
RFT63T	156.3 H	153.4 H	152.4 H	142.9 H	151.3	0.97	22.3	5.8	158.6	3.21 X	20.0	12.1 H	12	IM
RNY22L	No Data	156.9	156.4	154.7	156.0	2.04 *	4.6	1.1	160.2	3.60 X	4.6	6.2	8	LC
RVAL16	No Data	No Data	No Data	142.3	142.3	-1.06	3.2	0.0 L	142.3	-0.81	3.2	0.0 L	1	TB
SA7H92	142.9	145.0	151.7	146.7	146.6	-0.09	5.5	3.8	148.8	0.81	11.3	7.9	12	LC
U74QNM	154.4	No Data	137.4	No Data	145.9	-0.24	7.4	12.0 H	145.9	0.08	7.4	12.0 H	2	MB
UD7C4P	140.4	146.1	150.9	141.9 L	144.8	-0.48	4.1	4.7	141.3	-1.04	4.2	3.8	12	LC
UWH7RP	147.4	No Data	150.4	148.6	148.8	0.41	4.7	1.5	149.1	0.88	4.1	1.1	6	LD
VKHZCR	157.5	160.7 *	158.0	156.4	158.2	2.52 *	4.8	1.8	151.9	1.56	5.9	5.0	12	LC
VMBPTR	142.7	141.8 L	140.4	142.4	141.8	-1.16	4.8	1.0	141.4	-1.01	4.2	3.4	12	LX
VRJB8N	144.4	140.8	145.4 L	146.6	144.3	-0.60	4.9	2.5	144.1	-0.36	5.6	2.4	12	TQ
VUW6N7	144.0 L	139.1	140.1	148.5 L	142.9	-0.91	3.4	4.3	142.1	-0.84	4.8	2.7	12	LC
WW87NR	144.8	150.3 H	143.3	154.7 H	148.3	0.29	20.6	5.2	142.9	-0.67	13.1	6.5	12	LZ
XC12XV	150.7	149.2	145.2	149.9	148.8	0.40	5.6	2.4	148.4	0.69	9.3	4.2	12	LC
YAA4DW	181.6 XH	166.9 X	169.5 X	168.2 X	171.6	5.55 X	6.2	6.8	171.6	6.40 X	6.2	6.8	4	TB
YVEW7G	140.2	147.8	146.0 H	145.2	144.8	-0.49	7.9	3.3	146.2	0.16	7.3	4.9	12	LC
Z1QPAY	151.8	154.8	155.1	149.7	152.8	1.32	4.0	2.6	148.8	0.79	4.4	5.4	12	LZ
ZGVH12	150.6	152.1	152.0	148.7	150.9	0.88	4.3	1.6	153.1	1.85	5.6	3.1	12	LD
ZJB7KC	135.0	139.2	No Data	No Data	137.1	-2.23 *	4.3	3.0	138.7	-1.69	8.4	6.8	10	LC
ZTHPFQ	145.4	146.0	140.3	143.8	143.9	-0.70	4.5	2.6	142.9	-0.66	4.8	2.6	12	LD



Consensus (All Labs) Results

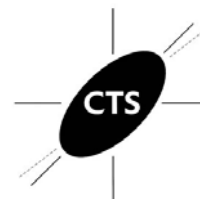
Wk Mean	146.27	147.23	147.26	146.79	Month Mean	146.97	Grand Mean	145.55
Avg SDr	5.68	7.55	6.17	6.81	Avg SDr	6.58	Avg SDr	6.64
SD btwn Labs	6.30	6.37	5.89	6.21	SD btwn Labs	4.43	SD btwn Labs	4.06
Labs Includ	61	61	61	61	SD btwn Wks	3.86	SD btwn Wks	5.19
Labs Exclud	2	2	4	1	Labs Includ	61	Labs Includ	62
Labs not rcvd	4	4	2	5				

Instrument Code List as Reported by the Labs

- | | |
|--|--|
| (EM) - Emerson 1200 | (EN) - Emerson 2200 |
| (EX) - Emerson (model not specified) | (IM) - Instron 4486 |
| (LC) - L & W Crush Tester 48 | (LD) - L&W Crush Tester 248 |
| (LX) - L & W 506 | (LZ) - L & W Crush Tester (model not specified) |
| (MB) - Messmer Buchel K440 | (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 |
| (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
12HVCA	27.5*	28.3*	27.6	27.3*	27.6	2.25*	2.7	0.4	25.9	0.93	2.5	1.2	15	LW
2315ZA	26.2	24.1	No Data	No Data	25.1	-0.07	2.0	1.5	23.0	-1.92	2.6	1.1	14	LW
38HXPE	25.0	No Data	24.5	24.7	24.7	-0.45	2.0	0.2	24.5	-0.47	1.9	0.4	6	LW
38LFVQ	26.0	26.8	26.1	27.2*	26.5	1.21	2.5	0.6	26.3	1.26	2.4	0.7	16	XX
3LAKWV	22.4*	22.8	23.4	No Data	22.9	-2.15*	2.6	0.5	22.9	-2.09*	2.6	0.5	3	LZ
53JUN1	26.0	25.6	25.2	24.9	25.4	0.19	2.2	0.5	24.8	-0.16	2.0	0.9	16	LU
5ETZNM	24.9	24.9	24.5	24.3	24.6	-0.51	2.4	0.3	24.6	-0.37	2.2	1.0	16	LW
62CG7A	26.7	No Data	27.1	No Data	26.9	1.59	2.4	0.3	26.7	1.65	2.4	1.2	4	BK
69NBXS	24.6	25.5	25.9	25.2	25.3	0.10	2.1	0.5	24.7	-0.24	2.1	0.6	16	LW
7523YR	24.4	25.7	23.6	24.6	24.6	-0.57	1.8	0.9	24.5	-0.47	2.0	0.8	14	LA
824WE7	24.6L	23.7L	23.3L	24.1L	23.9	-1.17	0.4	0.5	24.3	-0.68	0.4	1.6	12	XX
8A8YBY	23.2	24.1	23.2	24.3	23.7	-1.38	1.9	0.6	23.7	-1.27	1.9	0.6	4	XX
8W5SZE	26.2	28.1*	26.2	25.8	26.6	1.25	1.6	1.0	26.5	1.45	1.4	0.9	16	LU
9NPFH8	25.0	25.0	24.9	24.1	24.8	-0.40	2.0	0.4	24.8	-0.16	1.8	0.5	16	LU
A5HFSR	25.4	25.9	24.5	25.4	25.3	0.09	2.2	0.6	25.0	0.05	2.2	0.6	16	LW
BGLFCJ	26.4	26.8	26.1	26.3	26.4	1.08	2.3	0.3	25.5	0.46	2.2	1.0	16	LZ
CLVKPP	25.1	25.1	26.7	39.5XH	29.1	3.59X	8.5	7.0H	26.9	1.86	5.9	4.3H	12	LW
CY6VDZ	No Data	27.0	27.7	27.0	27.3	1.89	1.8	0.4	26.8	1.74	2.1	0.5	11	XX
FGB9L4	24.4	24.7	24.9	25.2	24.8	-0.39	1.9	0.3	24.6	-0.42	2.1	0.5	16	XX
GCSSQ5	24.3	25.0	24.9	25.7	25.0	-0.22	2.6	0.6	24.7	-0.29	2.4	0.9	16	LZ
GQJGPB	23.9	24.7	26.9	25.7	25.3	0.09	2.6	1.3	24.4	-0.60	2.3	1.4	16	XX
HA3NTS	25.6	25.3	24.2	25.2	25.1	-0.13	1.7	0.6	24.7	-0.31	1.7	1.0	14	BK
JFEQUE	22.8	25.4	22.7	24.1	23.7	-1.35	2.3	1.3	23.7	-1.24	2.3	1.3	4	LU
M1DPSV	26.4	27.0	26.1	25.6	26.3	0.99	2.4	0.6	25.9	0.95	2.3	0.7	16	LW
MQ62CQ	No Data	No Data	26.6	25.7	26.2	0.87	2.4	0.6	26.2	1.15	2.4	0.6	2	LZ
N72CJK	24.4	24.9	24.3	26.0	24.9	-0.28	1.9	0.8	24.3	-0.70	2.0	0.6	14	LW
N939H8	No Data	No Data	No Data	25.4	25.4	0.16	1.8	0.0L	25.4	0.38	1.8	0.0L	1	LU
NMETKV	23.1	25.0	23.0	25.0	24.0	-1.09	1.2	1.1	24.2	-0.76	1.4	0.8	16	LZ
P15U2F	24.9L	28.3*L	26.1L	25.3L	26.1	0.87	0.1	1.5	25.8	0.83	0.1	1.2	15	TS
Q6FN4W	24.9	23.9	25.2	25.3	24.8	-0.37	2.1	0.6	24.6	-0.42	2.0	1.0	16	LU
RKBHNG	24.9	23.9L	25.8L	25.5L	25.0	-0.16	1.3	0.8	24.3	-0.66	2.0	1.3	15	LW
RXFM8B	27.3	No Data	No Data	26.1	26.7	1.36	2.4	0.9	26.7	1.67	2.4	0.9	2	LA
SMN9VQ	23.7	24.4	25.8	24.0	24.5	-0.67	2.2	0.9	23.9	-1.11	2.0	0.8	16	LW
T1T66A	25.8L	23.4L	25.6L	25.8L	25.2	-0.04	0.0	1.2	25.2	0.16	0.0	1.2	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
TJKTEZ	No Data	24.2	24.3	25.1	24.5	-0.63	2.4	0.5	24.3	-0.70	2.2	0.6	14	LW
TNJ714	23.4 L	21.7 *L	22.6 L	23.6 L	22.8	-2.21 *	0.4	0.9	23.5	-1.48	0.4	0.9	16	XX
U7CLBT	26.1	25.1	24.7	25.2	25.3	0.06	1.6	0.6	25.5	0.48	1.5	0.8	16	XX
VCJGVT	25.6	25.5	25.8	25.3	25.6	0.32	1.8	0.2	25.7	0.71	1.5	0.9	16	LU
VKH18A	31.4 XL	31.7 X	28.8 *	30.8 X	30.7	5.04 X	2.1	1.3	30.7	5.60 X	2.1	1.2	15	LZ
VV5H3N	25.5	25.2	26.6	26.4	25.9	0.64	2.4	0.7	25.8	0.84	2.6	0.8	14	LW
YAU3CE	25.1	25.3	25.2	25.2	25.2	-0.01	2.5	0.1 L	24.8	-0.16	2.3	0.5	16	LU
YJH2PS	24.9	25.6	24.1	22.9 *	24.3	-0.79	2.4	1.1	25.1	0.11	2.6	1.1	16	LW

Consensus (All Labs) Results									
Wk Mean	25.04	25.21	25.24	25.25	Month Mean	25.20	Grand Mean	24.99	
Avg SDr	2.19	1.98	2.05	2.03	Avg SDr	2.04	Avg SDr	2.21	
SD btwn Labs	1.20	1.44	1.46	0.95	SD btwn Labs	1.09	SD btwn Labs	1.01	
Labs Includ	37	36	39	37	SD btwn Wks	0.77	SD btwn Wks	1.13	
Labs Exclud	1	1	0	2	Labs Includ	40	Labs Includ	41	
Labs not rcvd	4	5	3	3					

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					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
1BDSGR	42.3 X	37.5	43.3 XH	36.3	39.9	2.68*	6.2	3.5 H	39.4	3.32 X	4.2	3.7 H	12	XX
2WV9DP	35.3	35.3	34.8	34.5	35.0	-0.34	3.6	0.4	35.5	0.28	3.4	0.8	12	LW
3F59ZF	37.8	36.7	36.1	36.1	36.7	0.72	2.5	0.8	36.6	1.11	2.8	1.0	10	LW
5ALBB6	37.9	37.8	38.3	37.1	37.8	1.39	2.7	0.5	36.3	0.91	2.9	1.3	12	LW
68691R	33.6	34.4	35.5	35.1	34.6	-0.53	2.2	0.8	34.3	-0.72	2.3	0.8	11	LW
6JPV41	32.5	32.9	33.2	31.9*	32.6	-1.77	2.7	0.6	32.6	-2.00	2.7	0.6	4	XX
6WHDVC	33.9	34.1	33.8	33.7	33.9	-1.00	2.4	0.2 L	34.2	-0.75	2.4	0.6	12	XX
7TMCWE	35.9	35.2	34.6	35.8	35.4	-0.08	2.1	0.6	35.5	0.26	2.2	0.9	12	LU
7VKHS1	35.3	36.0	35.7	36.3	35.8	0.20	2.3	0.4	34.9	-0.17	2.4	1.1	9	BK
7ZHRAQ	34.7	35.8	35.3	35.1	35.2	-0.17	2.8	0.5	34.8	-0.27	2.6	0.6	12	LW
8FFGCC	36.4	34.6	35.4	35.9	35.6	0.03	2.7	0.8	35.7	0.42	2.3	0.5	12	LU
8VC4UL	36.9	37.8	38.5	35.5	37.2	1.03	2.4	1.3	37.6	1.95	4.4	2.0	12	LZ
AC6LXL	No Data	No Data	No Data	35.4	35.4	-0.08	2.7	0.0 L	35.4	0.16	2.7	0.0 L	1	LU
AKTUU4	34.8 L	35.7 L	41.8 XL	43.1 XL	38.8	2.04*	0.9	4.2 H	35.0	-0.15	0.9	5.0 H	12	XX
AMZ86B	36.4	34.2	36.4 L	34.1 L	35.3	-0.14	1.8	1.3	35.0	-0.12	2.1	1.1	12	LU
B3L2JM	32.7	32.3	32.5	No Data	32.5	-1.86	2.7	0.2 L	32.5	-2.11*	2.7	0.2 L	3	LZ
DL9BAD	33.6	34.3	39.5*H	34.7	35.5	0.02	6.2	2.7	34.7	-0.40	4.1	1.7	12	LW
DP8L9U	33.9 L	34.1	33.5 L	35.6 L	34.3	-0.76	1.3	0.9	33.6	-1.24	2.8	1.1	12	LA
DWRWG3	No Data	35.0	34.3	33.9	34.4	-0.69	2.4	0.6	34.1	-0.81	2.2	0.6	11	LU
DX5F9D	32.4	35.5	33.9	33.1	33.7	-1.09	2.5	1.3	33.4	-1.40	2.4	1.1	12	LW
F92GDZ	36.3	No Data	37.9	No Data	37.1	0.96	3.3	1.1	36.8	1.28	3.2	0.9	3	BK
FKFVK3	34.7	36.8	37.1	34.7	35.8	0.20	3.0	1.3	34.6	-0.45	2.9	1.5	12	LW
FR1EWV	No Data	No Data	36.4	35.8	36.1	0.37	3.8	0.4	36.1	0.74	3.8	0.4	2	LZ
G69BDV	No Data	36.3	35.4	36.7	36.1	0.39	2.3	0.7	36.5	1.02	2.4	0.8	8	XX
G6M4T5	37.6	37.9	35.5 L	37.6	37.2	1.01	2.4	1.1	37.1	1.55	2.5	0.9	12	LU
H86G2Z	37.7 L	34.7 L	37.1	36.3	36.5	0.60	1.4	1.3	36.4	0.99	1.9	0.9	12	LZ
HPMAXJ	39.1	35.4	43.9 XH	61.7 XH	45.0	5.84 X	22.4	11.7 H	42.0	5.40 X	18.3	8.7 H	8	LW
JE5C9X	36.7	36.5	36.1	36.9	36.5	0.63	3.1	0.4	35.9	0.56	3.1	0.8	12	LW
KR6YE2	34.7	33.6	34.4	34.5	34.3	-0.73	2.5	0.5	34.3	-0.64	2.7	0.6	12	LZ
L9UC3K	36.7	35.4	35.7	34.3	35.5	0.02	3.2	1.0	35.2	0.03	2.8	1.0	12	LU
NTWKCF	36.8 L	35.0 L	35.1 L	36.3 L	35.8	0.17	0.0	0.9	35.8	0.49	0.0	0.9	4	XX
PVBXCP	34.5	34.1	34.6	34.6	34.4	-0.65	2.2	0.2 L	34.6	-0.48	2.6	0.5	12	LU
Q1KSAB	37.0	No Data	No Data	37.4	37.2	1.04	3.8	0.3	37.2	1.61	3.8	0.3	2	LA
QYBGW2	No Data	33.6	32.7	34.5	33.6	-1.16	2.4	0.9	34.2	-0.75	2.4	0.9	10	LW



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
SDJ2RB	37.5 L	36.0 L	35.7 L	35.0 L	36.1	0.34	0.2	1.1	37.6	1.93	0.2	2.8 H	12	TS
SZCSJ8	34.0	34.9	35.3	35.1	34.8	-0.44	2.3	0.6	34.4	-0.57	2.5	0.7	12	LW
TFXEBC	31.9	35.9	34.5	34.9	34.3	-0.76	3.1	1.7	34.2	-0.78	2.9	1.8	12	XX
VHCA8M	34.8	No Data	34.7	36.3	35.3	-0.15	2.3	0.9	34.7	-0.39	2.3	1.0	6	LW
W9JPD8	51.1 X	49.7 X	50.7 X	45.3 X	49.2	8.40 X	2.9	2.6	50.1	11.74 X	3.0	3.3 H	8	LZ
YQAW9Y	31.8 L	31.3 *L	32.0 L	32.5 *L	31.9	-2.21 *	0.6	0.5	34.0	-0.91	0.8	1.7	12	XX
ZBF7AR	39.6 *	33.9	No Data	No Data	36.8	0.76	2.8	4.1 H	34.9	-0.20	5.6	3.3 H	10	LW

Consensus (All Labs) Results									
Wk Mean	35.45	35.16	35.33	35.24	Month Mean	35.51	Grand Mean	35.16	
Avg SDr	2.49	2.58	3.06	2.53	Avg SDr	2.82	Avg SDr	2.80	
SD btwn Labs	2.04	1.52	1.70	1.31	SD btwn Labs	1.63	SD btwn Labs	1.27	
Labs Includ	34	35	34	35	SD btwn Wks	1.43	SD btwn Wks	1.46	
Labs Exclud	2	1	4	3	Labs Includ	39	Labs Includ	38	
Labs not rcvd	5	5	3	3					

Instrument Code List as Reported by the Labs

(BK) - Buchel Strip Compression Tester BK-155

(LA) - L & W Autoline

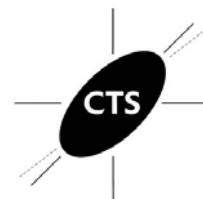
(LU) - L & W 52 without moisture correction (was 53)

(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
13KMNQ	123.2	-0.25	7.6	110.9	-0.60	8.0	3	EV
1VPPWF	115.3	-0.74	3.7	227.4	2.28*	12.9	4	EV
1WTV34	153.5	1.65	5.8	160.6	0.63	7.1	4	EV
37JVJH	110.2	-1.06	16.0	105.9	-0.73	11.9	4	EV
4CAKJM	133.2	0.38	9.6	145.1	0.24	16.1	4	EV
8TNB19	139.3	0.75	2.1	110.7	-0.61	6.8	4	EV
8U9RL5	114.4	-0.80	6.3	117.7	-0.43	11.8	3	XX
A6JSP3	119.5	-0.48	6.0	125.2	-0.25	5.6	4	EV
AXSB2J	123.2	-0.25	20.4	107.9	-0.67	21.3	4	EV
AY174U	4,000.0	241.80 X	502.5	2,114.5	48.92X	312.0	3	EV
DML28W	116.1	-0.69	11.7	114.9	-0.50	10.5	4	EV
EM6XSB	123.6	-0.23	2.9	112.7	-0.56	10.8	4	EV
FFSR25	124.4	-0.17	13.8	113.5	-0.54	13.1	4	LA
FPGYRG	119.0	-0.51	11.5	115.0	-0.50	8.3	4	EV
HJ66P2	101.0	-1.63	2.5	101.8	-0.83	11.2	4	EV
HSRETX	157.6	1.90	10.0	163.2	0.69	11.3	2	EV
JZSR4M	105.9	-1.33	16.4	105.9	-0.72	16.4	1	EV
LEJUEA	142.4	0.95	6.2	142.4	0.18	6.2	1	EV
N6ZDZ5	217.1	5.61 X	24.0	199.4	1.59	21.0	4	EV
NUZYHF	97.3	-1.87	5.2	86.8	-1.20	4.3	4	EV
QJGDTH	135.4	0.51	9.5	190.1	1.36	90.4	4	XX
QWW391	135.0	0.49	12.6	135.2	0.00	10.2	3	EV
SX5YQP	139.2	0.75	9.7	143.5	0.20	9.1	3	EV
T2EGHQ	137.4	0.64	9.6	137.4	0.05	9.6	1	EV
TNACVA	243.1	7.23 X	14.5	217.7	2.04*	21.8	4	EV
YRSMEH	0.3	-7.92 X	0.0	45.7	-2.21*	7.6	3	EV
Z1C4VV	138.0	0.67	18.8	166.9	0.78	21.1	4	XX
Z495PS	148.4	1.32	9.8	147.0	0.29	11.5	4	EV

Consensus (All Labs) Results			
Month Mean	127.19	Grand Mean	135.20
Avg SDr	10.69	Avg SDr	21.44
SD btwn Labs	16.02	SD btwn Labs	40.46
Labs Incd	24	Labs Incd	27

Report #472

Containerboard Interlaboratory Testing Program
Analysis 228

Roughness - Stylus Method, 42 lb Linerboard - 42X
TAPPI Provisional Test Method T575

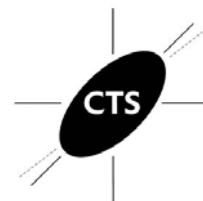


Instrument Code List as Reported by the Labs

(EV) - Emveco Microgauge Model 210-R

(LA) - L & W Autoline

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
3ZQQQG	98.8	-0.64	7.9	100.8	-0.59	6.3	3	TM
4972T1	100.0	-0.53	2.3	104.2	-0.23	4.7	3	HY
59YR1M	117.4	1.04	3.3	115.9	1.01	6.3	3	TM
6C3XED	106.4	0.05	3.8	109.7	0.36	6.5	3	TM
6P2TVL	95.8	-0.91	3.8	98.3	-0.86	3.9	3	SC
7HCGCA	117.0	1.00	5.4	117.0	1.13	5.4	1	XX
7J37EX	105.4	-0.04	8.4	109.3	0.31	8.5	3	HZ
8KFNBG	89.8	-1.45	7.0	92.0	-1.53	7.5	2	TM
9E7R1F	108.0	0.19	5.6	98.5	-0.84	5.6	3	SC
BDHH2R	120.8	1.35	5.9	115.4	0.96	5.0	2	SC
DDM8PY	109.0	0.28	5.8	108.7	0.25	5.3	3	HY
MCW1QS	129.4	2.12 *	3.2	121.1	1.57	11.7	2	SC
U4W5CM	105.5	-0.03	1.4	119.9	1.44	9.8	3	HY
V6VSBJ	97.1	-0.79	9.2	170.1	6.79 X	20.2	3	SC
VKEH2Y	111.0	0.46	9.3	106.6	0.03	8.5	3	HY
X2E5SP	105.4	-0.05	5.6	100.6	-0.62	4.7	3	SC
YDV652	83.8	-2.00	3.4	90.5	-1.68	8.7	3	TM
ZR6C17	105.4	-0.04	22.9	99.5	-0.73	14.4	3	TM

Consensus (All Labs) Results			
Month Mean	105.89	Grand Mean	106.34
Avg SDr	7.84	Avg SDr	7.71
SD btwn Labs	11.07	SD btwn Labs	9.39
Labs Incd	18	Labs Incd	17

Instrument Code List as Reported by the Labs

(HY) - Huygen Digitized Scott Internal Bond Tester

(HZ) - Huygen Internal Bond Tester with AccuPress

(SC) - Scott Internal Bond Tester (Manual)

(TM) - TMI Monitor/Internal Bond Tester

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

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



WebCode	Monthly Results			Cumulative Results				
	Mean	CPV	SDr	Mean	CPV	SDr	Months	Inst
1XDR4Q	29.0	0.48	3.4	27.8	-0.27	3.3	3	ZZ
29GLQY	28.8	0.38	6.1	26.0	-1.07	4.2	3	ZZ
29VBF4	26.2	-0.79	6.0	25.8	-1.15	5.5	3	ZZ
2XWN2N	29.4	0.66	2.4	29.4	0.44	2.4	1	ZZ
7R5XX8	27.6	-0.15	2.0	27.5	-0.41	1.7	3	ZZ
8EP9LM	33.0	2.29 *	1.9	34.1	2.54 *	4.3	3	ZZ
8MHY2K	24.2	-1.70	1.5	28.2	-0.09	2.0	3	ZZ
917PNE	28.6	0.29	1.1	28.9	0.21	1.3	3	ZZ
A6CQHG	29.7	0.79	1.3	29.7	0.58	1.3	1	ZZ
ATF2QM	28.2	0.11	0.4	30.0	0.71	0.8	2	ZZ
CW7FGN	28.8	0.38	4.6	29.5	0.49	3.4	2	ZZ
DKNHNB	31.2	1.47	2.7	26.9	-0.68	3.8	3	ZZ
DUEE24	24.8	-1.43	3.3	27.5	-0.42	3.3	3	ZZ
G3A6MW	25.2	-1.25	4.1	24.2	-1.86	4.2	2	ZZ
GKMX6Z	27.0	-0.43	6.0	27.7	-0.31	6.1	2	ZZ
H48L16	27.0	-0.43	6.5	28.5	0.04	4.6	2	ZZ
M7PEV3	19.8	-3.69 X	0.8	20.7	-3.42 X	2.4	2	ZZ
NQMYLP	28.0	0.02	1.2	27.1	-0.56	0.7	3	ZZ
PSTCNT	25.4	-1.15	2.7	25.6	-1.24	2.5	3	ZZ
PSX246	29.5	0.70	4.4	29.5	0.49	4.4	1	ZZ
R55YN6	41.6	6.18 X	4.3	33.2	2.13 *	4.2	3	ZZ
RE6JQY	27.8	-0.07	2.8	30.4	0.90	2.6	3	ZZ
RNNUHR	24.5	-1.54	1.6	27.2	-0.52	3.7	3	ZZ
T8QYFQ	28.6	0.29	1.7	27.3	-0.50	1.9	3	ZZ
Y1TWZL	30.3	1.06	1.4	29.7	0.56	2.6	3	ZZ

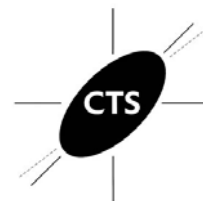
Consensus (All Labs) Results			
Month Mean	27.95	Grand Mean	28.40
Avg SDr	3.50	Avg SDr	3.43
SD btwn Labs	2.21	SD btwn Labs	2.25
Labs Incd	23	Labs Incd	24

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
1KHUJ	15.7	-0.52	2.3	18.4	0.61	4.0	3	GA
1PRDEW	17.0	0.00	4.1	17.0	-0.09	4.1	1	XX
2NAZ9U	17.7	0.27	4.4	18.7	0.74	4.3	3	GG
49QDHD	13.6	-1.38	1.1	14.9	-1.11	2.0	3	LA
4T7J5W	20.0	1.24	2.7	17.6	0.18	3.8	3	LW
6C8DPX	17.4	0.17	3.4	18.8	0.78	3.2	3	XX
AZW5RG	20.5	1.41	2.0	20.0	1.37	1.6	3	XX
DFEDP3	15.2	-0.76	3.1	14.1	-1.50	2.5	3	XX
FZ4B41	14.9	-0.87	2.9	14.0	-1.56	2.2	3	XX
G35NUY	16.6	-0.18	0.5	21.8	2.23*	1.3	3	LW
KL2D3W	17.0	0.01	1.6	15.6	-0.76	2.0	2	TN
LACMMR	22.9	2.42 *	1.7	29.7	6.05X	5.4	2	LW
MSYDEP	16.5	-0.20	2.7	16.3	-0.41	3.3	3	HG
MXBRG3	14.7	-0.93	1.4	15.7	-0.72	4.0	3	XX
SECSWR	20.0	1.23	3.5	18.0	0.40	3.8	3	HG
WA7P9C	16.5	-0.22	3.4	16.5	-0.35	3.4	1	GS
WC7W4W	15.3	-0.72	2.5	17.8	0.32	1.9	3	LP
ZHB876	14.6	-0.98	0.7	16.9	-0.14	3.0	3	GA

Consensus (All Labs) Results			
Month Mean	17.01	Grand Mean	17.18
Avg SDr	2.67	Avg SDr	3.11
SD btwn Labs	2.44	SD btwn Labs	2.06
Labs Incd	18	Labs Incd	17

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

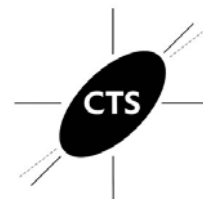
(HG) - Technidyne - Hagerty Model #1

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

(TN) - Teledyne Gurley S-P-S Tester #4190



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	
22NFWX	70.6*	67.4	67.8	67.2	68.2	1.82	2.9	1.6	66.8	1.34	2.9	2.8	11	LC
5TW5Z6	61.0	62.5	62.9	63.6	62.5	-0.27	2.7	1.1	63.1	-0.17	2.7	1.2	16	LC
5YHT8B	76.6XH	70.6*	74.2X	73.9X	73.8	3.86X	4.6	2.5	67.8	1.76	4.9	6.2H	16	LX
6FB4XY	68.2	63.8	67.5	66.7	66.5	1.21	4.1	1.9	66.3	1.14	3.8	2.3	16	LZ
6U62VH	59.9	60.1	59.8	59.3	59.8	-1.27	4.1	0.3	60.0	-1.42	3.3	1.6	16	TB
78R8U9	65.1	No Data	65.4	65.9	65.5	0.81	2.9	0.4	65.4	0.76	2.9	0.6	6	LD
8279AF	67.9	68.0	68.5	64.8	67.3	1.48	2.6	1.7	68.3	1.97	2.9	2.9	11	LC
85Q14A	64.1	62.8	61.2	63.2H	62.8	-0.15	4.5	1.2	62.9	-0.24	3.7	1.5	16	LD
97W4UY	68.8	69.5	69.3*	69.2*	69.2	2.18*	3.6	0.3	66.5	1.24	2.7	2.5	16	LC
9CD695	58.1	58.9	60.2	60.1	59.3	-1.43	2.8	1.0	61.8	-0.69	4.2	3.5	15	LC
9FBE65	63.0	61.0H	55.5*	60.9	60.1	-1.14	4.5	3.2H	61.9	-0.63	4.1	2.8	16	LC
BJWM3B	61.7	63.4	60.3	60.5	61.5	-0.64	2.3	1.4	62.0	-0.62	2.7	1.5	16	TM
BLWYL5	58.8	63.7	63.4	65.1	62.8	-0.18	2.5	2.7	62.6	-0.37	2.6	2.0	16	LC
E2UCB9	64.8	65.8	64.0	62.7	64.3	0.40	3.0	1.3	63.4	-0.03	2.8	1.3	16	LC
E953SN	59.3	61.0	62.4	58.9	60.4	-1.04	2.5	1.6	61.8	-0.69	2.8	1.9	15	MB
EZLV4K	60.0	61.5	61.1	61.7	61.1	-0.79	3.6	0.8	63.1	-0.16	3.6	3.6	13	MB
FK9GMM	60.5H	62.5	59.8H	61.4	61.0	-0.80	5.8	1.2	61.7	-0.71	4.3	2.2	16	LC
FPDZ61	No Data	62.8	61.8	62.4	62.3	-0.33	2.2	0.5	63.0	-0.19	2.5	1.9	14	TM
FZ962J	63.2	No Data	60.8	No Data	62.0	-0.45	2.7	1.7	61.6	-0.77	2.7	1.1	4	MB
FZWVN8	59.5	61.7	59.8	60.6	60.4	-1.04	3.5	1.0	60.7	-1.13	3.3	1.5	15	LC
GN9GK4	58.6	60.7	57.9	60.0	59.3	-1.44	2.8	1.3	59.6	-1.58	2.7	1.3	16	LX
J6Q2WS	62.0	63.0	61.1	61.1	61.8	-0.52	2.9	0.9	64.0	0.21	3.8	1.9	16	LC
J8YDC8	63.4	68.0	66.7	68.8*	66.7	1.27	3.7	2.4	66.1	1.06	3.5	2.0	14	LZ
J9PLGC	67.3	67.7	67.4	65.0	66.9	1.32	4.0	1.2	64.8	0.54	3.0	1.9	16	LC
JFV6MN	61.1	61.1	61.6	61.1	61.2	-0.74	3.3	0.3	61.7	-0.71	3.3	1.4	12	TD
JUB5G2	62.1	61.1	62.0	61.3	61.6	-0.59	2.6	0.5	66.1	1.06	2.8	3.9H	16	LZ
K52789	62.4	61.5	62.7	62.4	62.3	-0.36	2.7	0.5	61.4	-0.85	2.8	1.2	16	LC
K6BYYJ	66.7	64.0	61.9	65.0	64.4	0.42	2.9	2.0	63.4	-0.04	3.4	1.5	16	LC
KLFKU1	67.4	65.2	66.1	65.7	66.1	1.05	3.6	0.9	65.9	0.99	3.2	1.2	16	EM
KX15VV	61.3	62.3	62.4	63.1L	62.3	-0.35	2.4	0.7	62.4	-0.46	2.5	1.1	16	TA
M4UYZ7	66.7	64.3L	66.2	65.4	65.7	0.88	2.9	1.0	65.2	0.71	2.9	1.8	16	LD
NLAP9R	72.0*	70.4*	67.0	69.2*	69.6	2.34*	3.5	2.1	69.5	2.47*	3.9	1.4	8	LZ
NQCTJL	No Data	No Data	No Data	61.3	61.3	-0.70	2.0	0.0L	61.3	-0.88	2.0	0.0L	1	LC
QVAW8N	65.7	68.0	66.6	67.1	66.9	1.32	3.7	1.0	68.0	1.82	4.0	2.1	16	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
TRYKLZ	61.9	61.9	61.3	61.5	61.6	-0.59	3.0	0.3	62.1	-0.57	2.9	1.4	16	LC
TSVXJD	61.8	66.3	62.9	66.3	64.3	0.39	3.0	2.3	64.0	0.23	3.1	2.0	16	XX
V8ZMS1	61.3	61.9 ^H	60.9	61.3 ^H	61.4	-0.69	5.5	0.4	62.3	-0.50	4.6	1.3	12	LC
VCRY85	61.4	61.6	62.3	63.0	62.1	-0.43	2.8	0.7	61.6	-0.76	2.5	0.9	16	LC
WNCCAZ	64.1	62.8	62.3	62.3	62.9	-0.14	2.1	0.8	62.6	-0.37	1.9	1.5	14	LC
WUP5WK	64.3	63.3	64.8	63.8	64.1	0.30	2.8	0.6	63.8	0.14	2.5	0.6	16	LC
Y9PQFS	63.0	59.4	61.1	61.1	61.2	-0.76	3.3	1.5	63.2	-0.13	3.1	3.0	16	LC
YMDTGX	66.3	65.6	64.3	61.5	64.4	0.44	3.3	2.1	59.9	-1.47	2.9	3.6 ^H	12	TB
YN7KNB	61.0	61.0	61.0	61.4	61.1	-0.78	3.5	0.2 ^L	60.3	-1.29	2.8	2.9	16	LC

Consensus (All Labs) Results

Wk Mean	63.40	63.69	62.98	63.24	Month Mean	63.24	Grand Mean	63.48
Avg SDr	3.14	3.57	3.39	3.29	Avg SDr	3.32	Avg SDr	3.22
SD btwn Labs	3.39	3.04	3.06	2.75	SD btwn Labs	2.74	SD btwn Labs	2.46
Labs Incd	40	40	41	41	SD btwn Wks	1.39	SD btwn Wks	2.27
Labs Excl'd	1	0	1	1	Labs Incd	42	Labs Incd	43
Labs not rcvd	2	3	1	1				

Instrument Code List as Reported by the Labs

- (EM) - Emerson 1200 Series
- (LD) - L&W Crush Tester 248
- (LZ) - L & W Crush Tester (model not specified)
- (TA) - Thwing-Albert Model QC II-XDS
- (TD) - TMI Digital Crush Tester, Model 17-09
- (XX) - Instrument make/model not specified by lab
- (LC) - L & W Crush Tester 48
- (LX) - L & W 506
- (MB) - Messmer Buchel K440
- (TB) - TMI Monitor/Compression Tester, 17-70
- (TM) - TMI/Hinde & Dauch



WebCode	Weekly Means				Monthly Results				Cumulative Results					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
25HYRX	81.9	80.2	82.7*	80.3	81.3	1.40	3.1	1.2	81.4	1.37	2.8	2.0	13	MB
5R1CHN	77.9	79.4	79.4	78.3	78.8	0.96	2.8	0.8	78.2	0.82	3.6	1.2	16	LC
6QP9RN	70.7	71.0L	69.0	69.9L	70.2	-0.54	2.0	0.9	68.8	-0.81	2.1	1.2	16	LD
6ZETD8	78.5	75.5	74.4	78.3	76.7	0.60	2.3	2.0	76.6	0.53	2.4	2.1	16	LD
82LUQJ	78.8	78.8	72.5	75.0	76.3	0.53	3.4	3.1	77.4	0.67	2.9	2.3	16	LZ
91FJT8	72.5	74.0	74.1	72.6	73.3	0.01	2.3	0.8	73.9	0.06	2.5	1.1	16	TD
99G9RA	76.3	75.4	71.7	75.4	74.7	0.25	3.7	2.0	75.3	0.32	3.1	2.1	16	LZ
C42LXH	76.7	76.1	75.8	75.7	76.1	0.49	2.2	0.4	76.1	0.44	2.2	0.4	4	XX
FL9RIJ	72.9	71.7	73.3	68.1	71.5	-0.31	2.9	2.3	71.7	-0.32	2.8	1.6	11	XX
J6GT5K	62.7*	58.8*	55.4X	60.4*	59.3	-2.42*	3.7	3.1	59.3	-2.46*	3.7	3.1H	4	XX
LRYE2H	73.0	70.8H	67.8H	68.7H	70.1	-0.55	5.9	2.3	74.6	0.19	3.6	3.1H	16	LZ
Q2LKLR	73.3	No Data	73.2	75.6	74.0	0.13	3.1	1.3	73.7	0.02	2.7	1.4	6	LD
S5EV8V	63.7H	65.5H	66.6H	63.2H	64.8	-1.48	7.4	1.6	65.3	-1.43	6.5	1.5	16	TB
SU7CDD	77.9	79.3	79.0	79.6	78.9	0.99	2.4	0.8	79.2	0.98	2.4	1.8	16	XX
UEYZRR	79.4	79.5	74.8	77.9	77.9	0.81	2.6	2.2	77.4	0.68	2.8	1.5	16	LC
VGUSL2	68.7	66.9L	69.4	67.2	68.1	-0.90	2.2	1.2	67.4	-1.06	2.0	1.1	16	XX

Consensus (All Labs) Results

Wk Mean	74.05	73.54	73.58	72.89	Month Mean	73.24	Grand Mean	73.52
Avg SDr	3.54	3.55	3.79	3.19	Avg SDr	3.54	Avg SDr	3.19
SD btwn Labs	5.49	6.16	4.47	6.00	SD btwn Labs	5.75	SD btwn Labs	5.77
Labs Includ	16	15	15	16	SD btwn Wks	1.82	SD btwn Wks	1.85
Labs Exclud	0	0	1	0	Labs Includ	16	Labs Includ	16
Labs not rcvd	0	1	0	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					Inst
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	
1HX1YV	42.0	41.1	41.8 H	No Data	41.6	0.00	3.1	0.5	41.6	0.03	3.1	0.5	3	EM
4C27UJ	40.4	39.4	39.7	39.8 L	39.8	-1.05	1.6	0.4	40.3	-0.82	2.0	0.8	16	EN
5RNNNSG	34.0*	31.1 X	30.3 XH	28.5 XH	31.0	-6.14 X	4.3	2.3	33.0	-5.39 X	4.2	1.8	16	TB
79R87F	33.8*	31.4 X	38.0	35.8*H	34.8	-3.97 X	3.4	2.8 H	35.3	-3.94 X	3.4	2.6	15	LC
82U9B5	43.6	42.1	42.3	43.5	42.9	0.71	2.2	0.8	40.7	-0.58	2.6	2.6	8	LZ
AANVXN	39.5	41.3	47.7*	44.2	43.2	0.87	2.3	3.6 H	43.2	1.00	2.6	2.9 H	12	LC
BPTAU5	40.5	39.8	34.3*H	35.3*H	37.5	-2.40*	3.4	3.1 H	37.7	-2.43*	3.3	2.9 H	16	LX
FLGT23	43.4	43.1	44.2	40.7	42.9	0.69	2.7	1.5	44.2	1.59	2.4	1.8	13	MB
FN2L1Y	41.2 L	41.3	41.1 L	41.2 L	41.2	-0.27	1.0	0.1 L	41.8	0.10	1.3	1.1	16	LC
GM2HR2	44.7	44.2	43.7	45.1	44.4	1.60	2.2	0.6	42.2	0.40	3.0	3.8 H	16	LZ
GMRYFS	No Data	No Data	No Data	43.0	43.0	0.80	3.3	0.0 L	43.0	0.90	3.3	0.0 L	1	TB
HDJ5ZA	40.7	41.7	40.6	42.0	41.2	-0.23	2.0	0.7	40.8	-0.53	2.1	1.0	16	LC
MQGLP2	42.6	40.2	41.1	40.9	41.2	-0.27	3.1	1.0	40.3	-0.79	3.3	1.2	16	LC
Q9FQ2L	43.4	44.1	43.0	44.0	43.6	1.15	2.2	0.5	42.7	0.70	2.0	0.9	16	LC
T4GGHM	42.4	41.0	40.8	40.2	41.1	-0.31	2.5	0.9	40.7	-0.53	2.1	0.7	16	LC
VVVRR7	41.2	41.6	41.6	41.2	41.4	-0.14	2.7	0.2 L	41.9	0.20	2.0	1.2	16	LC
WYP4TW	38.0 L	39.4	39.1 L	40.5	39.2	-1.38	1.5	1.0	39.9	-1.04	1.5	0.9	14	WK
XF99H2	40.8	40.2	40.5	42.1	40.9	-0.42	1.6	0.8	42.6	0.65	1.7	1.3	16	TD
YHCB2B	42.7	41.5	43.5	43.5	42.8	0.66	2.8	0.9	43.4	1.15	2.8	1.5	16	LC

Consensus (All Labs) Results

Wk Mean	40.83	41.37	41.35	41.35	Month Mean	41.65	Grand Mean	41.60
Avg SDr	2.51	2.32	2.39	2.66	Avg SDr	2.45	Avg SDr	2.49
SD btwn Labs	3.00	1.48	2.89	2.68	SD btwn Labs	1.74	SD btwn Labs	1.60
Labs Includ	18	16	17	17	SD btwn Wks	1.41	SD btwn Wks	1.82
Labs Exclud	0	2	1	1	Labs Includ	17	Labs Includ	17
Labs not rcvd	1	1	1	1				

Instrument Code List as Reported by the Labs

(EM) - Emerson 1200 Series

(EN) - Emerson 2200 Series

(LC) - L & W Crush Tester 48

(LX) - L & W 506

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

(MB) - Messmer Buchel K440

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

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

(WK) - Zwick Z005 Crush Tester



WebCode	Weekly Means				Monthly Results				Cumulative Results					
	Week 1	Week 2	Week 3	Week 4	Mean	CPV	SDr	SD Wk	Mean	CPV	SDr	SD Wk	Wks	Inst
3BFEQM	15.3	14.7 L	15.1	14.3	14.9	0.24	1.0	0.4	14.6	-0.56	1.1	0.6	16	LW
6KR12T	15.5	No Data	15.9	No Data	15.7	1.20	1.5	0.3	15.9	2.07*	1.3	0.4	4	BK
E9DK5Z	13.1	15.7	15.0	14.5	14.6	-0.09	1.2	1.1 H	14.6	-0.54	1.2	1.1	4	XX
J16AXW	15.9	15.5	15.9	15.7	15.7	1.26	1.3	0.2	15.4	1.22	1.3	0.3	16	LW
JYWW4R	13.9	14.0	14.2	14.2	14.1	-0.67	1.2	0.1	14.4	-0.82	1.1	0.3	16	LU
LQHNPM	No Data	No Data	No Data	14.5	14.5	-0.17	1.2	0.0 L	14.5	-0.68	1.2	0.0 L	1	LU
S7FRH3	15.2	15.2	15.0	14.7	15.0	0.44	1.0	0.2	14.8	-0.02	1.1	0.4	14	LW
UENDJX	13.2	12.8	12.7*	12.8*	12.9	-2.05*	0.8	0.2	14.8	0.00	1.1	1.7 H	14	LW
URBLZL	13.2	15.4	14.9	14.6	14.5	-0.17	1.2	0.9	14.5	-0.68	1.2	0.9	4	XX

Consensus (All Labs) Results													
Wk Mean	14.41	14.75	14.82	14.41	Month Mean	14.65				Grand Mean	14.84		
Avg SDr	1.11	1.10	1.29	1.11	Avg SDr	1.18				Avg SDr	1.18		
SD btwn Labs	1.18	1.04	1.02	0.79	SD btwn Labs	0.87				SD btwn Labs	0.49		
Labs Includ	8	7	8	8	SD btwn Wks	0.56				SD btwn Wks	0.86		
Labs Exclud	0	0	0	0	Labs Includ	9				Labs Includ	9		
Labs not rcvd	1	2	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)

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